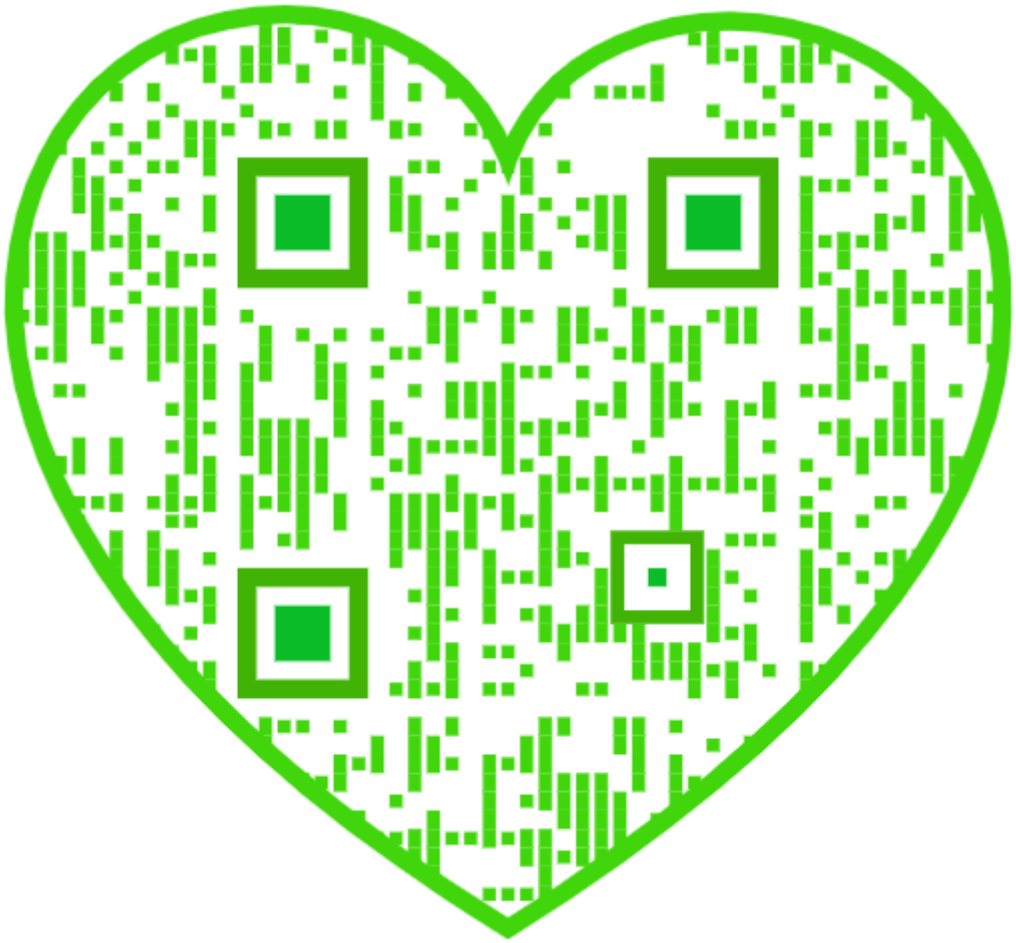

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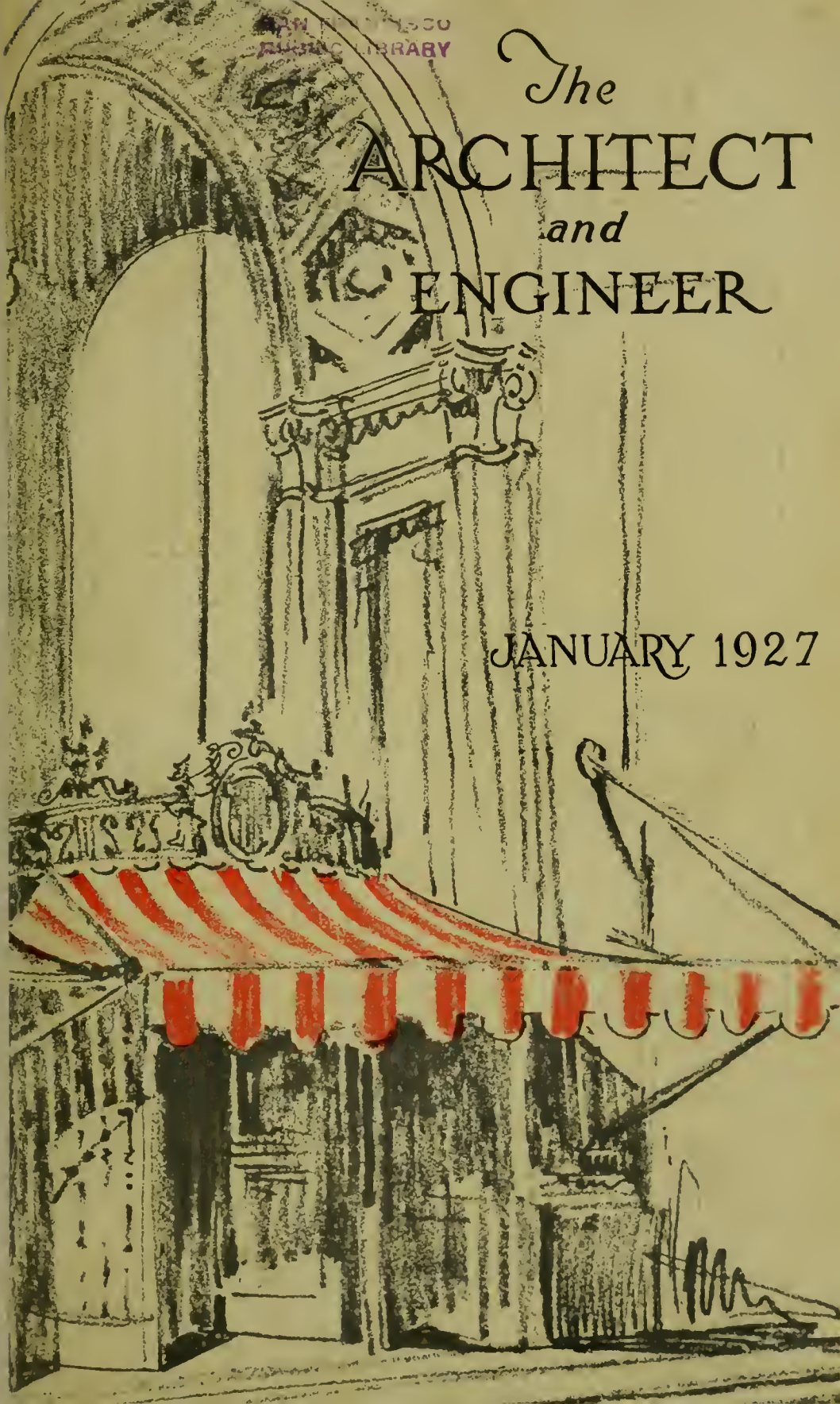

JANUARY 1927

How Would Your Wife Like It?

if she had in her house an Aromatic Red Cedar Chest big enough to hang her clothes in full length? If she had it maybe she would let you hang your clothes there and maybe she would not.

Maybe you think you couldn't find room enough in your house for such a big chest. Well, it's easy. You simply line one of your closets with

AROMATIC RED CEDAR TONGUE AND GROOVE

and presto you have the chest. This material is known as "Ceda'line." It is ⅜″ thick by 2″ or 3¼″ wide by 12″ to 84″ long and lays just like flooring.

"Ceda'line" is inexpensive

One hundred square feet of surface measure will amply cover the interior of an ordinary closet. Measure up one of yours and see for yourself. Hardwood Headquarters at Fifth and Brannan Streets, San Francisco, will supply enough "Ceda'line" to cover 100 square feet of space for $22.50. A carpenter can put it up in one day, or you can nail it right over the plaster yourself. It's perfectly simple. And there you have your glorified Cedar Chest with its pure, delightfully pungent fragrance. It's moth proof, too.

Architects—try "Ceda'line" in some of your residences and see how it pleases the ladies. They are the ones who decide.

White Brothers
Hardwood Headquarters
Since 1872

FIFTH AND BRANNAN STREETS
Sutter 1367 San Francisco, Calif.

the ARCHITECT & ENGINEER

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The Architect and Engineer
January, 1927

MARK HOPKINS HOTEL, SAN FRANCISCO, CALIFORNIA
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

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The ARCHITECT and ENGINEER

VOL. LXXXVIII JANUARY, 1927 Number 1

NOB HILL, SAN FRANCISCO, and The NEW MARK HOPKINS HOTEL

WEEKS & DAY, ARCHITECTS

By

Louis C. Mullgardt F.A.I.A.

THE Mark Hopkins Hotel, the Fairmont and the Brocklebank compose well; they constitute a most formidable array on the easterly end of the plateau of San Francisco's historic Nob Hill. The Pacific Union Club building now assumes a serene aspect within its added enclosure of leviathan buildings.

San Francisco will appear supreme on this eminence, when the entire plateau is consistently built over.

Architectural variety there is; there will be more later on. Why not, if it masses well? The cathedral will be early Gothic, according to Hobart's design. The Pacific Union Club is a renaissance interpretation of the last century. The mammoth Fairmont Hotel belongs to the classical period. The Mark Hopkins Hotel and other towering structures are distinctly Twentieth Century American, each different in mass, style of detail and proportion. Such variety lends charm and interest, provided, of course, that each added unit is deserving of admiration. The cathedral and club are destined to appear as miniatures encased within a heavy frame; the cathedral cannot be made to dominate its surround-

Photography by Gabriel Moulin

ings here, as cathedrals do elsewhere; the conditions on Nob Hill are entirely new and promising of excellent co-ordinate results in a new way.

The Fairmont now looks its best: the towering neighbors dignify its block forms and colossal scale; its form and mass seemed inappropriate to dominate the eminence, whereas the Mark Hopkins is faithfully the pinnacle of Nob Hill. And Nob Hill is the revivified social mecca of San Francisco; the engrossed cosmopolitan surge will be there.

Incidentally, Nob Hill requires a stately garage; one of fine appearance, equal to any building now or hereafter built. Curb parking on the plateau will only accommodate about 250 machines, when every available space is taken, including the 300-car garage in the basement of the new hotel. Nob Hill is THE growing social center where people will con-

SKY LINE VIEW OF MARK HOPKINS HOTEL, SAN FRANCISCO
Photograph taken from Telephone Building

stantly surge in motor cars which not only deserve to be housed, but require to be centralized under reliable control and prompt telephone call.

The main entrance of the Mark Hopkins faces a triangular plaza, which is in fact an extension of the Nob Hill plateau, pedestalled on walls flanking precipitous Mason and California streets. This plaza will, of course, present traffic difficulties which are insuperable, but which are scarcely less uncommon elsewhere.

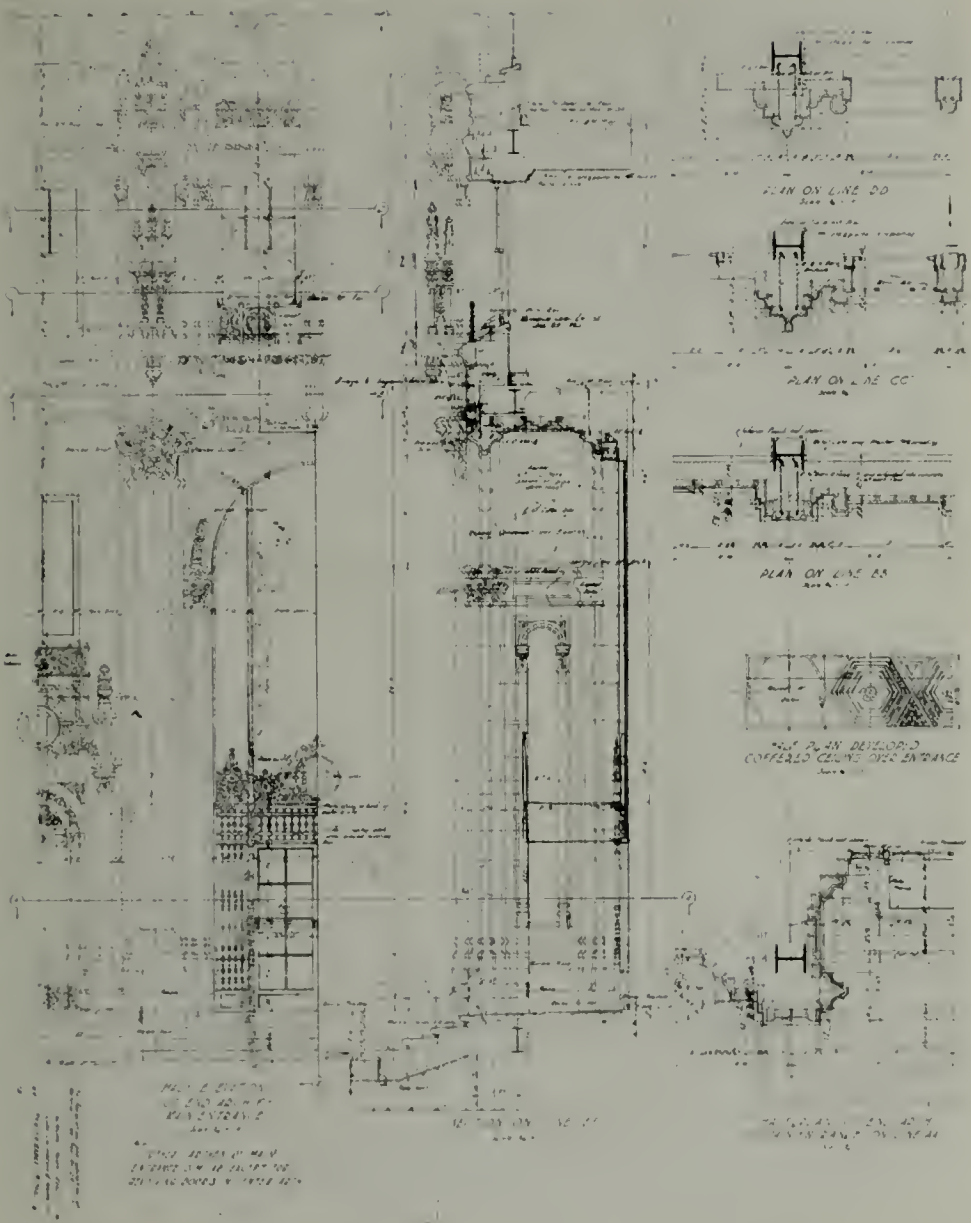
Ye olden days provided ye lady's carriage with separate driveway and porte cochere entrance; only pedestrians came and went by way of vestibule entrance. Superior cleanliness and reliability of motor-power than horse-power ordains that the automobile shall approach the main portal, everywhere, hence the driveway, main entrance and porte cochere

MARK HOPKINS HOTEL, SAN FRANCISCO, CALIFORNIA
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

PRELIMINARY PERSPECTIVE, MARK HOPKINS HOTEL
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

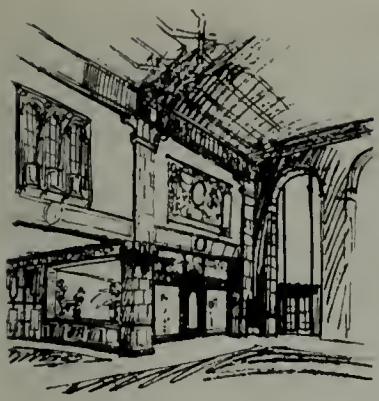
MARK HOPKINS HOTEL, SAN FRANCISCO, CALIFORNIA
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

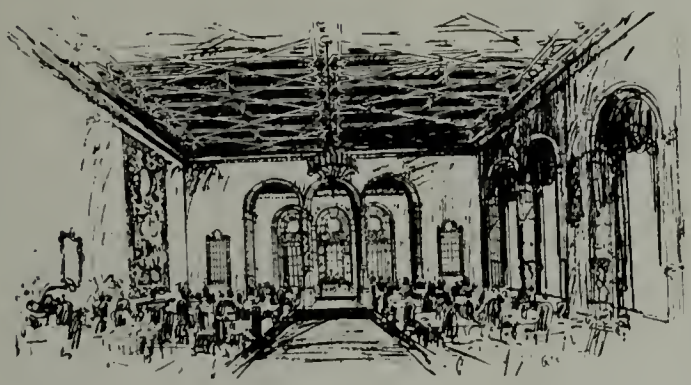
MAIN ENTRANCE, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS AND ENGINEERS



DETAILS, MAIN ENTRANCE, MARK HOPKINS HOTEL
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

DETAIL OF SOUTH WALL, MARK HOPKINS HOTEL
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

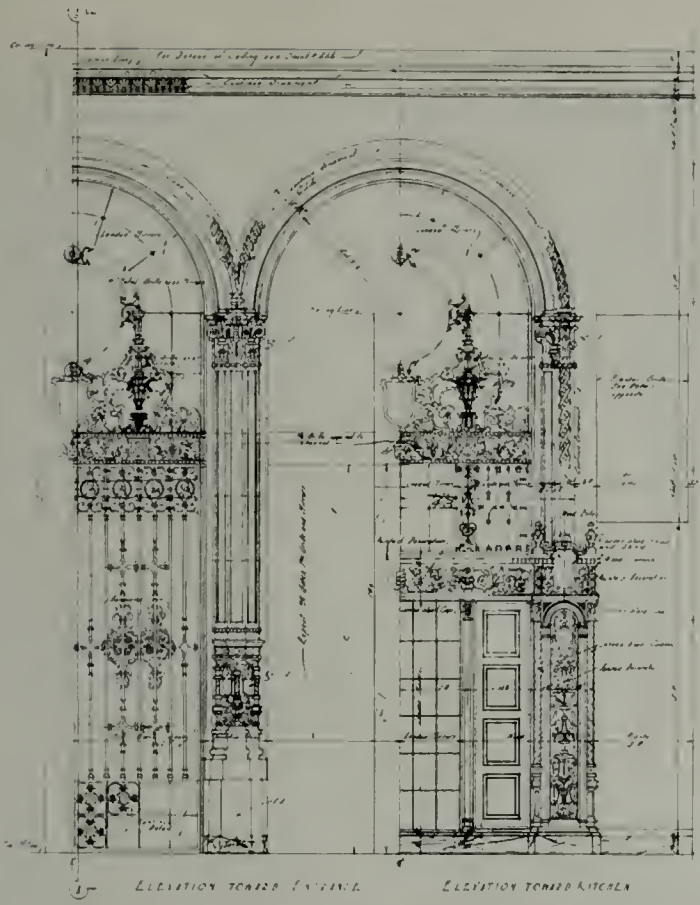




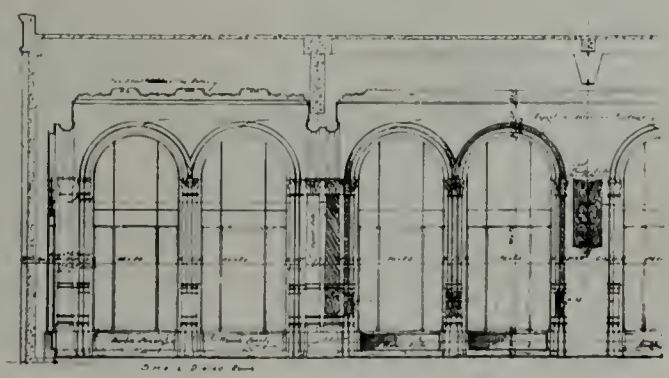
SKETCHES, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

Bronze grill work by Michel & Pfeffer

LOBBY, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS AND ENGINEERS



DETAILS OF NORTH WALL OF MAIN DINING ROOM



DETAILS, PEACOCK COURT, MARK HOPKINS HOTEL
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

ROOM OF THE DONS, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

ROOM OF THE DONS, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

MURAL IN ROOM OF DONS, MARK HOPKINS HOTEL
BY MAYNARD DIXON AND FRANK VAN SLOUN

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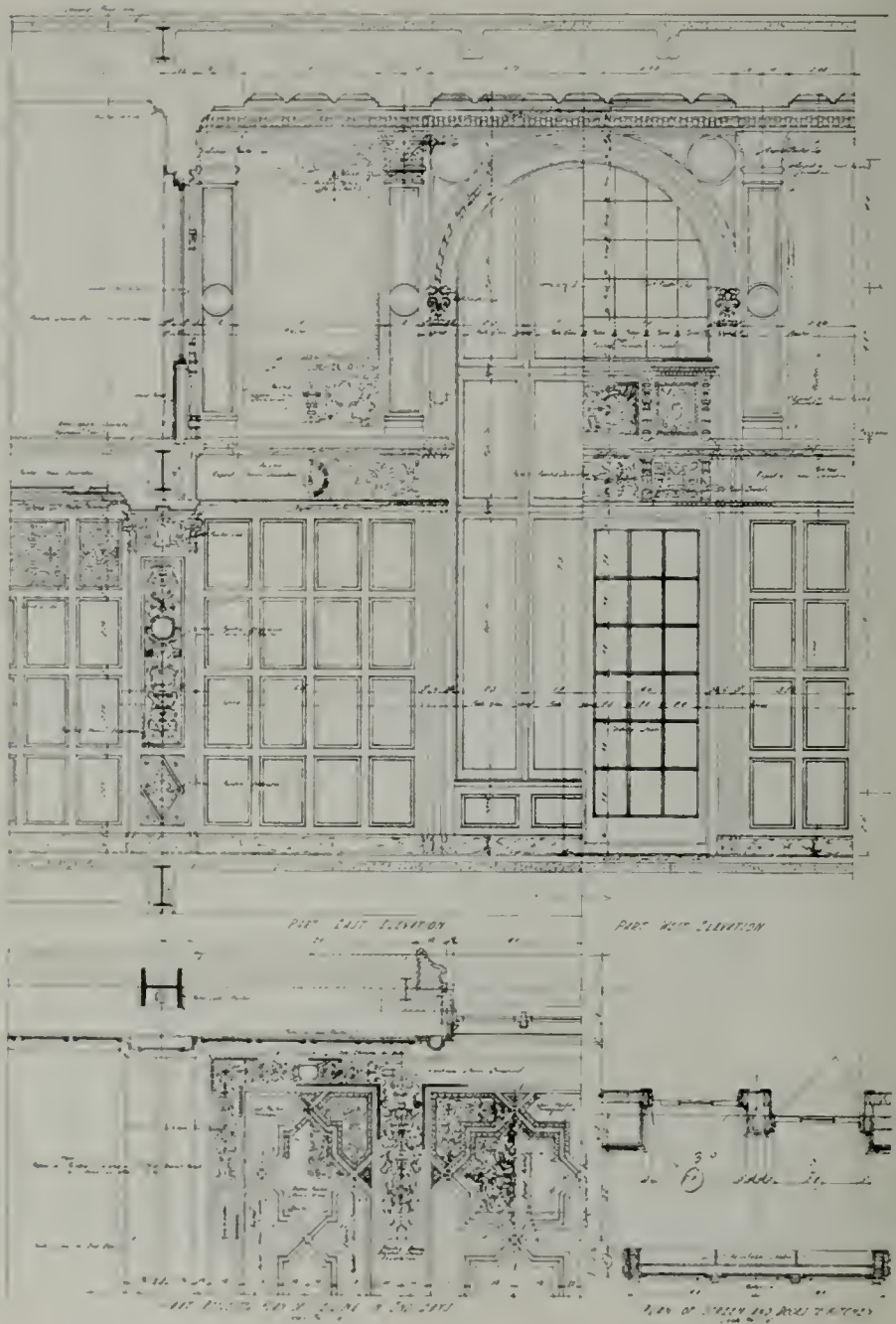
PEACOCK COURT, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY. ARCHITECTS AND ENGINEERS

PEACOCK COURT, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS AND ENGINEERS



DETAILS, GRILL ROOM, MARK HOPKINS HOTEL
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

TYPICAL BEDROOM, MARK HOPKINS HOTEL
Weeks and Day, Architects and Engineers

SINGLE BEDROOM, MARK HOPKINS HOTEL
Weeks and Day, Architects and Engineers

Architectural detail throughout the principal public rooms is characteristically Spanish-Moorish; the ceilings are richly endowed with arabesque relief and parti-color designs. Some of the ceilings are heavily beamed and some of the walls are elaborately panelled in designs of mahogany and walnut, whereas some of the walls are of Spanish-plastic severity, concentrating the eye on elaborate window and door embellishments and ceilings.

The decorations also extend into a generous display of splendid murals; several of them painted by some of California's best artists. A broad frieze in the ballroom allegorically depicts a processional theme of Spanish-California history, magnificently executed. Futurists have also had their fling to show some things to which God must aspire, to become really great.

The hotel exterior presents splendid silhouettes from all points of the compass; a characteristic that is of greatest importance to towering structures. Its mass, position and relationship to the hill and to the adjoining buildings fulfill every requisite.

San Franciscans, who are hereafter privileged to bestow an architectural quota to this magnificent hilltop, will doubtless realize the grave responsibility to our city which confronts them. Modern buildings are endowed with exceptional permanency; they are destined to endure, and to stand as monuments to their creators. It is our hope that the grandeur of Nob Hill will be permanently safeguarded.

MURAL DECORATIONS IN ROOM OF DONS, MARK HOPKINS HOTEL
By Maynard Dixon and Frank Van Sloun

ORIGINAL PLANS REVIVED IN BUILDING PROGRAM FOR WASHINGTON

THE Spoiler and his Works have finally become so burdensome, even to the placidity of political Washington, as to force upon our Congress the duty of saving Washington from the disgrace of being the most inharmoniously built capital city in the world. The original plans, sketched by Pierre l'Enfant, and apparently long forgotten, have been resurrected and it is announced will be followed in the idealization of the National capital. That this idealization cannot be accomplished during the present Congress, nor of many that will follow it, is admitted, but a start has been made and at the present session action will be demanded that will insure a start on the great program visioned by l'Enfant when the site of Washington was but a swamp and the capital but a name.

The initial cost of the great undertaking that now has the support of the powerful Public Buildings Commission, of which Senator Smoot of Utah is the chairman, will be $50,000,000 appropriated by the last Congress and when this is exhausted more will be requested. And so, after a century or more, the masterful mind of our first presidet is again recognized, for it was George Washington who stood behind l'Enfant and saw in the Frenchman's plans for the laying out of a national capital a development that, despite the hampering tactics of speculators and the unresponsiveness of the Congress, is recognized today as the peer of any capital of the world. No capital city possesses a more imposing center, with its buildings, towering some 300 feet above the city, and surrounded by open spaces which l'Enfant proposed should be parks and which the Fine Arts Commission now proposes to utilize for that purpose.

The absence of manufacturing plants in the District of Columbia has undoubtedly been responsible for the wide use of white marble in the erection of its great governmental buildings. White marble, stone and granite have been the chosen materials not only in public buildings, but in private enterprises and homes. Of the more recent additions to the architecture of Washington the most notable, of course, is the Lincoln Memorial constructed of Yule marble from Colorado and containing the great statue of Lincoln in Georgia marble. The new Chamber of Commerce building, a semi-public building, is of Indiana limestone, as are several other new structures erected by private enterprise. As the great program, outlined in the early days of the republic by l'Enfant and forgotten for so many years unfolds, Washington will eclipse in architectural beauty Ancient Rome, once the glory of its emperors.

The new plans for the beautification of Washington take in the whole of the triangle between Pennsylvania avenue and the Mall. There are some twenty-four city blocks in this area and eventually they will be covered with government buildings and parks. The plan provides for new homes for the Departments of Justice, Commerce and Labor and several of the larger bureaus, such as the Archives Bureau. The United States Supreme Court is to have a building all of its own, and the little chamber in the capitol that it now occupies and which once served as the senate chamber, can be utilized for some other purpose. Washington has not kept pace with the growth of the nation, except in a political way and now politics is to be set aside that the capital city may more truly represent a great and still growing world power.

PEN-AND-INK DRAWING BY CHARLES E. PERRY

SAINT PAUL'S EPISCOPAL CHURCH
BURLINGAME, CALIFORNIA.

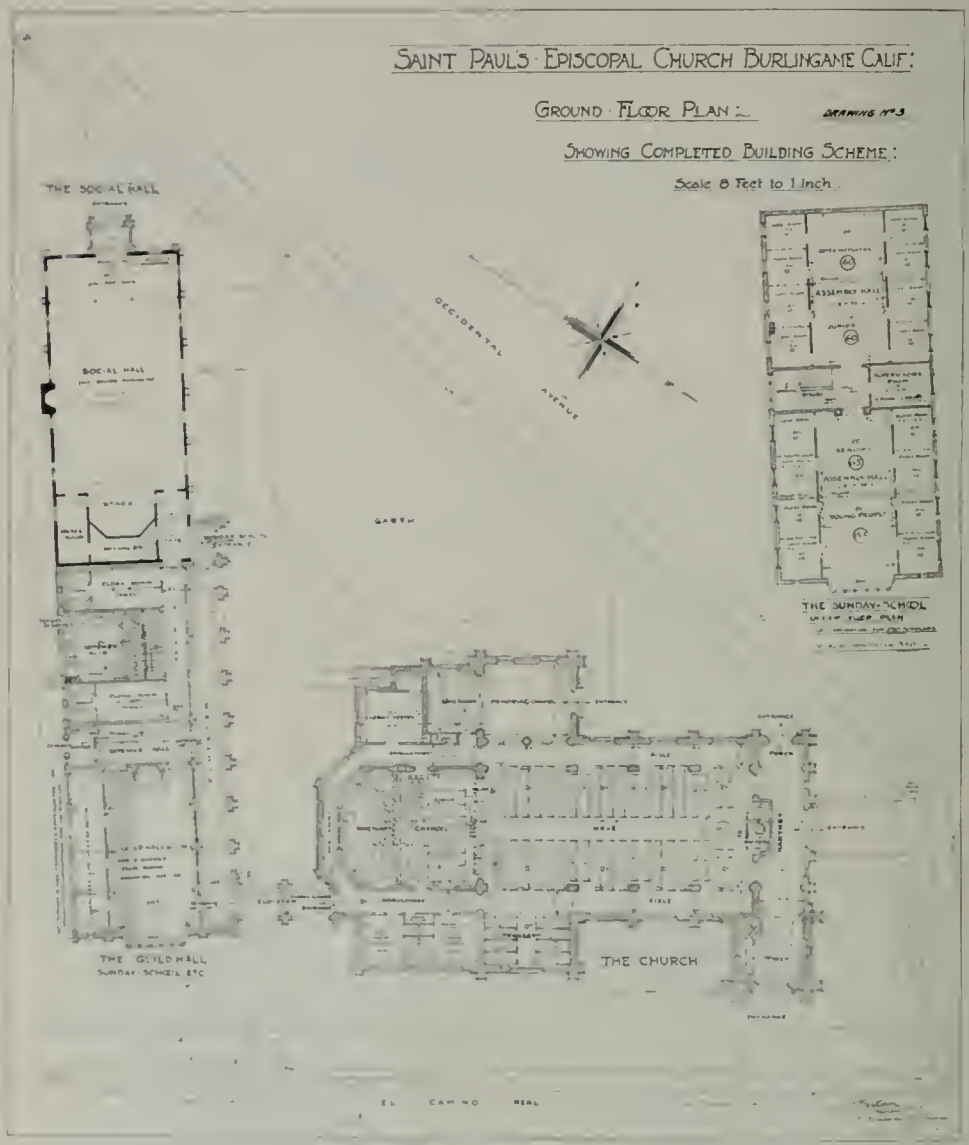
By W.C.F. Gillam, Architect.

IN planning the new St. Paul's Church, now under construction in Burlingame, California, one of the problems was to obtain a deep reveal and appearance of massiveness such as is conveyed by stone masonry. Stone was eliminated at the outset on account of cost, and pre-cast blocks used alone would not give good structural strength for a building of this type, having wide arches and high unsupported walls.

The type of construction employed is a continuous reinforced concrete frame of beams and columns and a six-inch reinforced curtain wall with lugs around all openings to obtain the desired reveal. The object was constantly kept in view of obtaining a stiff structure well tied together that would act as a unit under earthquake vibrations and this gives the added assurance of small and localized cracks due to shrinkage, temperature and possible settlement. A monolithic concrete wall of the full thickness desired, in some places as much as 19 inches, would have required a large amount of re-inforcing to insure small temperature and shrinkage cracks unless some form of expansion joint was used. The arches of the nave arcade are built with a concrete skeleton frame, consisting of a reinforced concrete rib along the intrados, with columns extending up from the springing and supporting a concrete beam that carries the roof load. Both sides of the arch are furred out to give the full thickness.

Since the foundation is a good clay and the loads relatively light, it is not expected that there will be any appreciable settlement. However, the building is quite variable in height with concentrations of load at certain points, due to the arches so that care was taken to insure as uniform a foundation pressure as possible and the continuous footings were reinforced so as to distribute any irregularities in load.

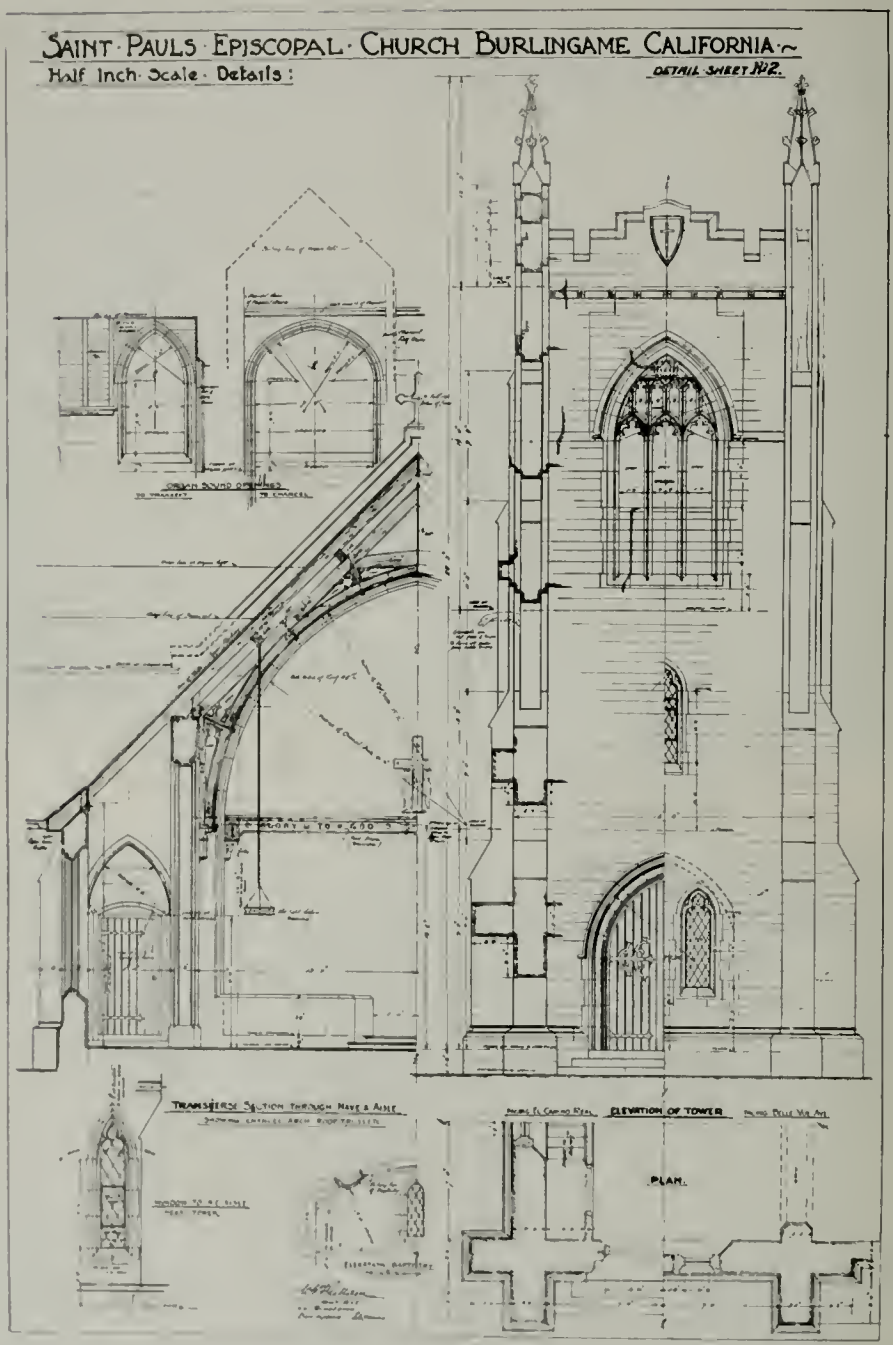
Architecturally the church is designed in fifteenth century English Gothic style, the treatment being the same inside and outside. The plan of the church is cruciform, giving accommodation for more than 500 worshippers. The memorial chapel will have a separate entrance and will be separated from the church proper by two Gothic arches. It will have its own chancel and sanctuary with altar. The building now being erected is the first unit of a comprehensive church plant. It is expected that the next unit will be commenced shortly, and this will consist of a guild hall, Sunday school social hall and kitchen. The church will be connected with the guild hall by a short cloister. The cost of the church proper, including furniture, will be considerably less than $70,000, a very modest sum when type of construction and finish are considered. Even at the present stage of construction the building has the atmosphere and the spirit of repose and sanctity; that feeling which all architects strive for but seldom achieve in modern ecclesiastical design.



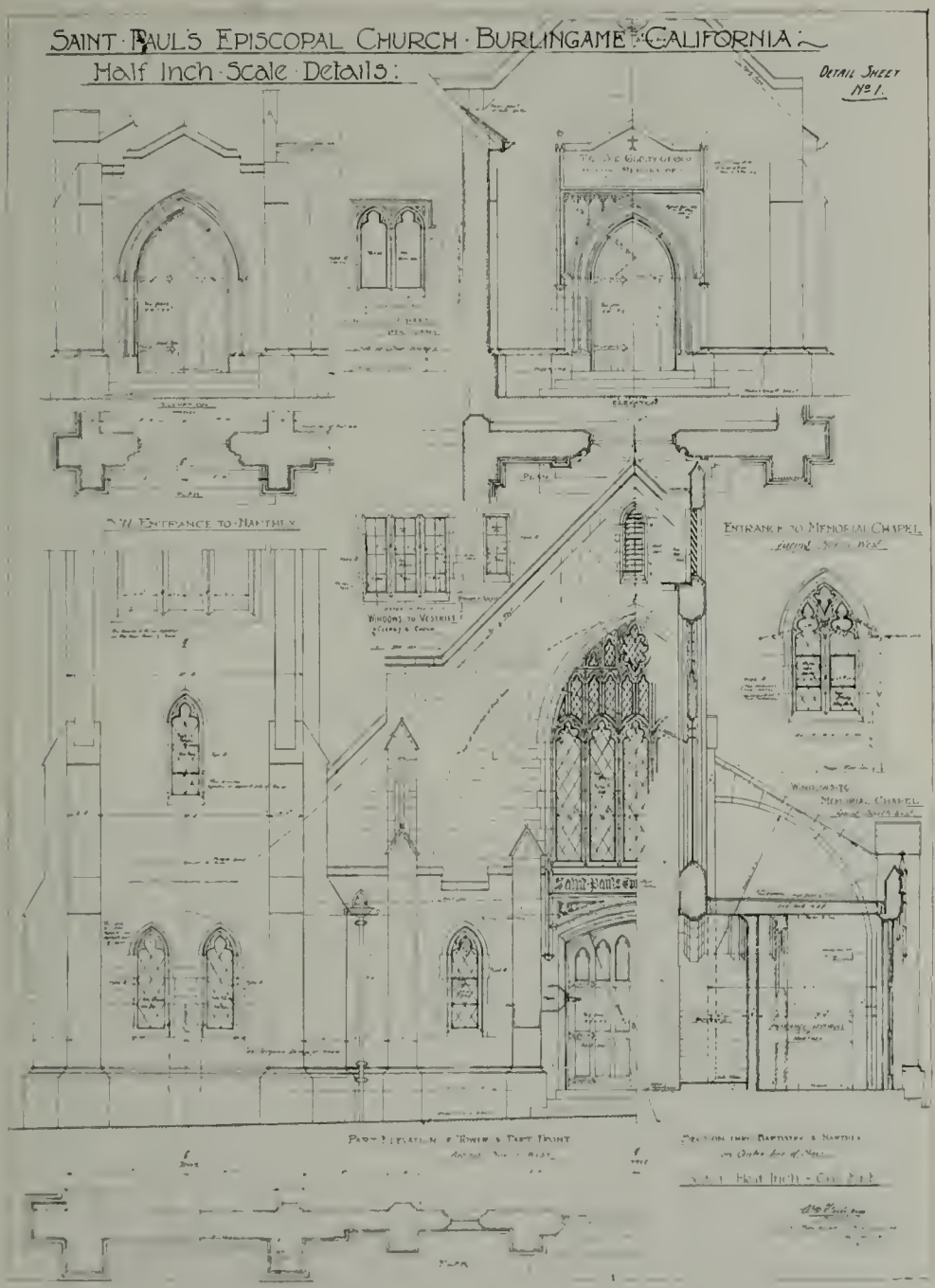
PLAN, ST. PAUL'S CHURCH, BURLINGAME
W. C. F. GILLAM, ARCHITECT

ST. PAUL'S EPISCOPAL CHURCH, BURLINGAME
W. C. F. Gillam, Architect

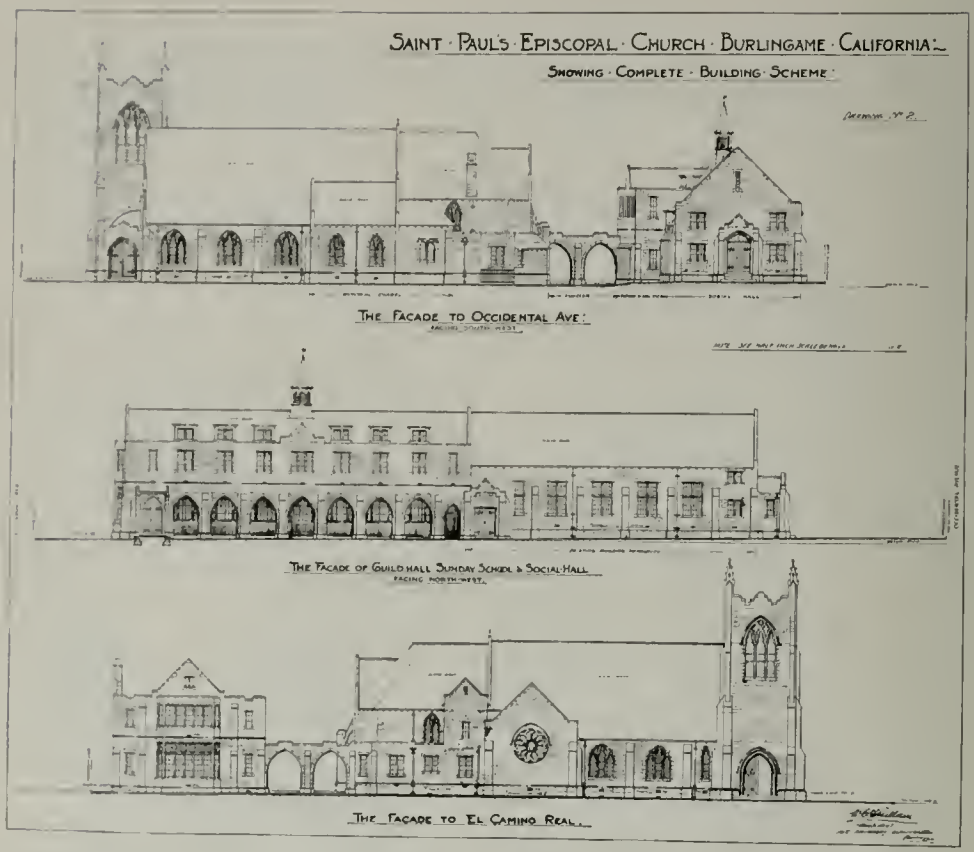
CHAPEL, ST. PAUL'S EPISCOPAL CHURCH, BURLINGAME
W. C. F. Gillam, Architect

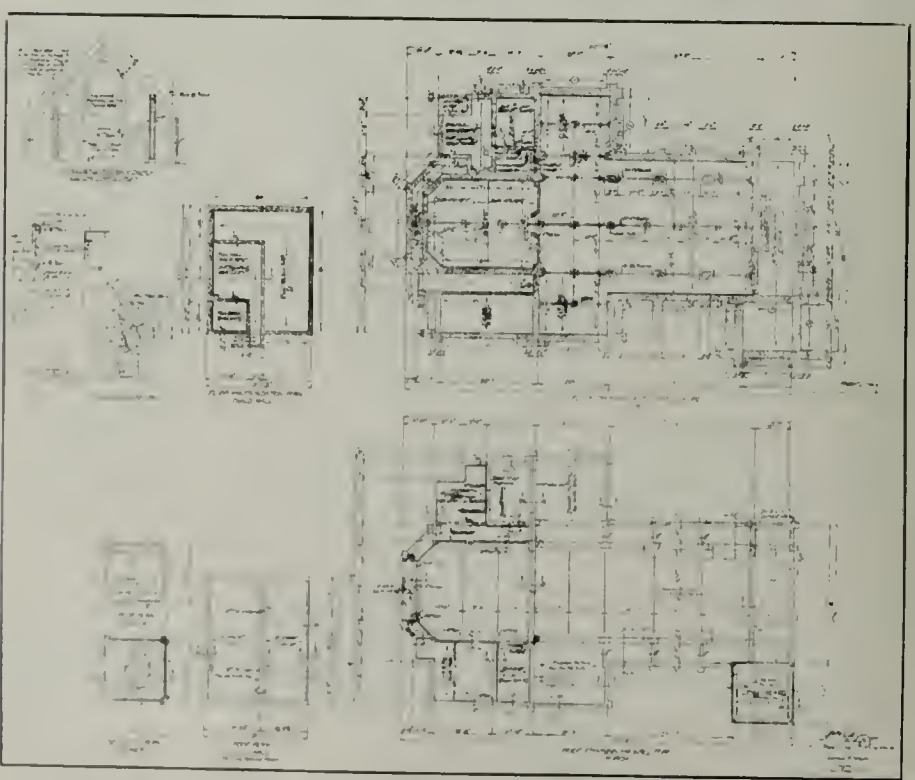


DETAILS, ST. PAUL'S CHURCH, BURLINGAME
W. C. F. GILLAM, ARCHITECT



DETAILS, ST. PAUL'S CHURCH, BURLINGAME
W. C. F. GILLAM, ARCHITECT


SAINT · PAUL'S · EPISCOPAL · CHURCH · BURLINGAME · CALIFORNIA
SHOWING · COMPLETE · BUILDING · SCHEME
THE FACADE TO OCCIDENTAL AVE.
THE FACADE OF GUILD HALL SUNDAY SCHOOL & SOCIAL HALL
FACING NORTH-WEST.
THE FACADE TO EL CAMINO REAL



ST. PAUL'S EPISCOPAL CHURCH, BURLINGAME
W. C. F. Gillam, Architect
Note tie beam starting at outside of marthex and continuing around the building.

PROGRESS PICTURE, INTERIOR OF ST. PAUL'S CHURCH
Showing reinforced construction of nave

INTERIOR, ST. PAUL'S EPISCOPAL CHURCH, BURLINGAME
W. C. F. GILLAM, ARCHITECT

RELATIONSHIP *between the* ARCHITECT *and the* DRAFTSMAN

By IRVING K. POND
In Pencil Points

THE draftsman in the perfectly normal case is the extension of the architect's hand. In many instances he is the extension of, and in too many instances the repository of the architect's mental equipment and imaginative mechanism. This latter is not a proper relationship; for when the draftsman occupies that position he should be the architect while the other should be the "job" getter (quite a necessary function) and the administrator.

The architect is somewhat analogous to the physician who diagnoses a case and writes the prescription. The builder in the analogy performs the duty of the apothecary and fills the prescription. There is no need for the draftsman until the practice of the physician-architect grows so large that he has to delegate the writing out of the prescription to others, dictating his words, conveying his ideas, through the medium of sketches, to his assistants. The physician's assistant contents himself with the task of writing the prescription clearly so that the apothecary need make no error in selecting the ingredients and in compounding the mixture; only the art of legibility is needed in this.

The architect's assistant, the draftsman, and too frequently the architect himself, mistake the means for the end and spend valuable time (let us suppose his time is valuable) and substance, which in great measure is wasted, in producing elaborately rendered plans, elevations and perspectives of absolutely trivial and commonplace structures. The process is needless in serious and sincere practice even when the design is worthy. The architect's business is with the building in all the intricacies of its design and construction and the vital part of that business, the part which will make the building live in the lives and hearts of humanity, is the creation of beauty. The architect too often by the production of beautiful drawings, deceives himself into believing that he has produced what will eventuate in a beautiful building. A building which is not beautiful when presented in simple outline with the simplest indication of spaces and materials will not be beautiful in reality. There will be less economic waste when the public, the architect and the draftsman come to understand and act upon this principle.

As indicated, the draftsman is the extension of the architect's mind, hand and heart. He should not be these things but the extension of them. Which means that the architect should work with and through the draftsman. The architect should be sensitive to the feeling in the draftsman as he is to the feeling in his own hand and heart. And there should be sympathetic response on the part of the draftsman as there is in the hand and heart of a well co-ordinated human body. This means an intimate relationship between the co-ordinate branches in the draft-

ing room. There will be no "clashes" between the structural engineer and the "designer" if the architect has thought his problem through. The designer will appreciate the needs of structure, and the structuralist will reciprocate. The difference between engineering and architecture is that in the latter conventional structure bows to the necessities of sincere beauty—and there is no beauty except it be sincere; there is no beauty other than this toward which any thing or anybody need show concern. However, architect and draftsman, each should realize that the beauty must ultimately be a characteristic of the building. The architect and the draftsman should understand that the building is the end and architectural practice the means. The drawings, like the specifications, should be clear, concise, accurate and explicit. The architect's own thought in reference to the specific problem should be the same. He should be able to see through and all around it. The draftsman should not cloud the vision in the cause of what he may consider "Art." A confused display of features on a sheet may tend to confuse the builder, and it is the builder's way which the drawings are designed to make clear. The builder is the important factor in making the record permanent—without him the drawing is but a dream. With him, cooperating skillfully with the cultured, imaginative architect, and the sympathetic well grounded draftsman, the dream will become real, another stone "well tried and true" laid in the structure in which the race is building the permanent record of its life.

This would seem to be a good place to stop; but the field is an extensive one and it may be well to traverse it a bit further. If the relationship is to ensue in which the draftsman is to be the extension of the arm or hand of the architect, being guided and directed, as this implies, from the center of force within the architect, it means that there must be a common origin or at least a body of experiences common to the two. If these experiences are limited in either architect or draftsman the work suffers and fails of attaining the high state in a direct ratio to the limitations. That vital architecture which shall last and become a record of civilization will not emanate from one who seeks to impose his will on plan or design in disregard of the will and idealism of the race. That thing which is fundamental in the race lives—that which is purely extraneous or superficial dies. It behooves the sincere architect, then, to study more than the technique and the superficial forms of buildings; he must study the underlying movement and idealism of his time. He must know his people, his community, his nation, his race. He must have been through the rivers of experience; and if anything vital is to come out of his design he must lead his assistants through the same avenues of approach. The architect will not have gained this experience in the schools; neither in the academic nor in the technical schools; but each, in importance in the order named, may open a path preparatory to the school of life. Should the individual assistant elect to specialize in a narrow field,—as seems to be a present tendency,—the technical school offers a short cut; but its training should be preceded or accompanied by a broad cultural course of study, both for the sake of the individual himself and of the work he is to assist in producing. One of the most vital of the relationships between architect and draftsman lies in the sincere attempt, at least, of the architect to direct the ambitious draftsman into cultural and then into technical paths. A relationship such as this is not one sided but postulates a sympathetic attitude and eager mind on the part of the draftsman. He should be able to see the advantages to him and to the work of such a relationship. If he does so see, he will be loyal

to the organization and strive in season and out of season to fit himself into it—not for the sake of the architect nor of the organization—but for his own sake and that of the work for which the organization exists. It is to produce beautiful and worthy buildings that the architectural organization exists, and one who cannot realize that and fit himself into the scheme has no rightful place in the organization.

The architect who would have his draftsman well rounded and well grounded will not keep him traveling in grooves and doing the same thing over and over incessantly because he has learned to do it well. He may do other things even better, and at least should be given the chance. The world of business is still in an embryonic stage where the employer will take advantage of the employee and the employee will take whatever advantage he can of his employer; but that condition cannot hold in the field of art where perfection of the object, and of the individual producing it, is the ideal. We know well enough that this is a commercial age. We have that hammered in on us from all sides; from clients; from builders; from commercial organizations; and there always will be commercial architectural organizations to meet the demand of commercial clients. But this is not to continue in a rank form. Evidence is not wanting that a spirit of beauty is awakening in the world; and part of that beauty consists in sympathetic understanding among peoples, and right relationships among individuals. Nowhere better may they be made to exist than in the architectural organization—between the architect and his assistant, who mutually are engaged in expressing the highest ideals of society; mutually endeavoring to write in permanent materials the record of a vital and advancing culture and civilization.

PEN-AND-INK SKETCH—A STREET SCENE IN SAN FRANCISCO

PANEL IN FRESCO
S. PÉLENC, DECORATIVE PAINTER

The REVIVAL of an ANCIENT ART

By
S. Pelenc

IN its skyscrapers, its sumptuous residences, and its great public buildings, American architecture reflects the prosperity of this great young nation. Granite pillars, marble stairways, bronze doors, steel construction, everything marks building destined to endure for centuries. One thing only is lacking—decoration equally permanent.

The use of concrete, which leaves large plain surfaces, offers a most appropriate field for painted decoration; and there is surely nothing more suitable for this purpose than fresco. I mean true fresco on fresh plaster. If I thus insist on true fresco on fresh plaster, it is in order to fix attention upon the true signification of the word. It has become customary to refer to any painted mural decoration as a "fresco," whether it be executed in oil, tempera, or wax, or whether it be on plaster or on canvas pasted to the wall.

The word "fresco" is the Italian word meaning fresh, damp; that is to say, it is painting executed on the fresh plaster. Hard lime plaster is used, and the pigment, mixed with water and applied while the plaster is still damp, bonds chemically with the lime and crystallizes integrally with surface of the wall. On drying it becomes proof against scratching, rubbing or wetting; in fact, it remains uninjured by any treatment short of the actual destruction of the surface on which it is painted. The color in fresco painting is as permanent as the surface, not subject to the inevitable darkening with time that occurs when oil is used as a medium.

Incontestably no other painting process can rival fresco. To demonstrate that it is incomparable for nobility and mysterious charm one need only recall the great names associated with it, such as Giotto, Masaccio, Ghirlandajo, Fra Angelico, Michael Angelo, Gozzoli, etc. The proof of its solidity is that examples which decorate numerous palaces and other monuments in Europe, although executed centuries ago, are still as rich and bright as the day they were painted. Such is not the case, alas, with oil paintings which adorn museums and palaces. These were once fresh in color, but they have gradually darkened, and in time are likely to become almost completely black.

Fresco has fallen into disuse not, as is generally assumed, because the line of great decorators has become exhausted, but rather because of a transformation which has come over architecture. In the fourteenth and especially the fifteenth centuries the use of elegant columns and soaring arches brought about a diminution of the large flat wall surfaces suitable for fresco painting. A little later, the use of oil painting led decorators to compete with the splendor of stained glass windows. That was the end of fresco; it succumbed, and with it mural decoration lost its noblest expression.

It would seem that the orgy of repeated cast plaster ornament has run its course, and with its disappearance we may look for the

FIREPLACE IN SGRAFFITTO
S. PÉLENC, DECORATOR

PANEL IN FRESCO
S. PÉLENC, DECORATIVE PAINTER

PANEL IN FRESCO
S. PELENC, DECORATIVE PAINTER

WALL DECORATION IN FRESCO
S. PELENC, DECORATIVE PAINTER

return of a type of decoration more gay, more original, more varied, and more expressive. It therefore seems an opportune moment to urge for the decoration of walls a process which has already been proven. Its revival will be to the honor of those architects who are willing to specify its use.

Fresco, which is the supreme expression of decorative painting, should remain flat. We know that decorations which try to create a realistic illusion and imitate architectural perspective are in bad taste.

Because fresco is an old process, that does not mean that one must be content with copying the ancients; on the contrary, it lends itself wonderfully to modern decoration. Numerous artists in France have devoted themselves to it and their works are distinguished by a spirit at once personal and modern. Fresco is taught at the Ecole des Beaux-Arts of Paris by Mr. Paul Baudouin, whose remarkable brochure* on its technique has in part inspired these lines.

The materials necessary for its execution (lime, cement, sand), and mineral colors (ochres) abound in this country and are of the best quality. Facility of transportation, technical perfection, skilled workmanship, everything would seem to call for such a revival. The use of colored stucco which has come into such great favor in this country is already a step on the way towards fresco; in many cases such stucco is being used instead of wall paper.

Fresco is especially distinguished from other types of mural decoration in that it does not give the appearance of painting executed on some separate material and applied, but seems in effect integral with the wall. It assumes the aspect of a solid soft-toned granite, varying according to the coarseness of the sand used. This property it acquires through chemical action in the lime as the plaster dries. A crust forms over the surface which has all the qualities of marble, and becomes perfectly bonded with the plaster—which is to say, the wall.

One peculiarity of fresco is that tones increasingly harmonize in proportion as the spectator withdraws from the painting. It is analogous to what happens in the case of music heard at a distance.

One should not assume that this medium requires a complicated outfit and a varied palette; on the contrary, yellow and red ochres, blue, green, burnt sienna, black, lime, and that is all. A poor palette, one might say. None the less Giotto needed no more to create eternal masterpieces.

In the decoration of living quarters nothing can give the walls a richer or more homelike effect. With a panel over door or fireplace, frames around doors or windows, a frieze near the ceiling or above the wainscot, or the field itself in a paneled scheme, one can obtain at once a harmony of incomparable charm. This decoration may be as simple as possible; a flower, an animal, foliage, a symbol, conventional ornament, anything may be made to contribute character to the house or express the occupant. This decoration may be executed on coarse plaster to give it the roughness of solid, rich material. If the artist possesses a requisite technique and culture he may add a decorative motif of his own choice or a landscape in flat tones.

What I have said applies to private houses; but how our public buildings would be ennobled if adapted to them! Our monuments are for the most part of stone and cold as tombs, and they would gain in gaiety and richness by the application of colors judiciously harmonized.

*Paul Baudouin: La Fresque, sa technique, ses applications. Librairie Centrale des Beaux-Arts, 2 Rue de l'Echelle, Paris.

And what marvelous opportunities they would give to eminent artists to continue the traditions of the masters of the past!

It would be a mistake to imagine that fresco painting is necessarily expensive. Evidently the price varies between simple work in flat tones and without design, and an artistic composition exacting long study and an accomplished technique. In the first case any painter can apply on the wet plaster tones previously prepared with powdered mineral colors and lime mixed with pure water. First he should pass over the plaster a lime wash required to fix the plaster so that it will not change the final tones. When this has assumed an initial set and formed a thin film over the plaster he applies the final color. All these operations should not exceed five or six hours after the application of the plaster. It is unnecessary to point out that on the lime wash the worker may, according to his ability, use several tones and arrange them at will—bands, simple free-hand designs—and that he may repeat and compose according to his fancy. He will thus experience a much keener pleasure than in repeating a mechanical stencil and his work will reflect his personal interest.

The frescoes of Pompeii, rich and gay as they are, are not the work of artists brought in from the outside, but of local workmen. There is no reason why we cannot do in America today what the workers of Pompeii did two thousand years ago. Doubtless many workmen would welcome an opportunity to use this process, and those gifted with a little artistic ability would be enabled to develop it. As for artists they must naturally acquire a certain degree of technical mastery; but it is with fresco as with other processes, and in fact with everything else—one learns by doing.** Artists know this better than anyone.

It must be understood that I am only speaking for the use of the process and that I make no pretention to teach its technique. For those so interested I can do no better than recommend the work cited above.

I have said that the price varies, as is only natural. Plain work will be evaluated according to the time a workman takes in doing it. As this is no longer than that required for ordinary tinting, the price should be about the same. As to artistic work involving landscapes, figures, and other compositions, the price will vary according to subject, size, color scheme, the artists' ability, and so on. This is a noble art and artists willing to give themselves up to it will enjoy hours which will repay their effort a hundred fold. But naturally they must be given encouragement in the form of opportunities to turn their knowledge to account.

It must not be forgotten moreover, that fresco decoration is intimately bound up with building, and that given the activity manifested in regard to the latter in this country the former can scarcely remain idle indefinitely. Numerous essays in fresco have already been made in all parts of the country, and if they have not yet borne fruit, it is only because the time has not yet been favorable. It has now come. The great plain wall surfaces of concrete construction only await an appropriate type of decoration, as artists only await the opportunity to execute it.

It is impossible to speak of fresco without saying a word also on sgraffitto. Sgraffitto is perhaps the oldest type of large scale drawing,

**"Practice makes perfect" is a close but colorless equivalent for the more picturesque French proverb: "C'est en forgeant qu'on devient forgeron." (One becomes blacksmith by blacksmithing.) Translator.

for it is this which primitive men used to decorate the walls of their caves.

"Sgraffitto" is the Italian word meaning scratched. Like fresco it uses fresh plaster, but a dark colored plaster (brown, blue, red) over which is applied one or more coats of light toned lime plaster. When this takes its initial set the design is transferred and the parts desired cut out with a knife or other hard instrument to expose the dark undercoat. The contrast between the two tones forms the design, which may be treated in solid masses or by hatched strokes. It is possible to enrich the work by applying on the light portions one or more flat tones leaving an untouched outline, thus uniting fresco and sgraffitto.

What is true for interiors applies equally to exteriors. Fresco and sgraffitto have this advantage over moldings and modeled ornament, that drawing produces the same effect at any time of the day or even at night. Relief ornament requires an oblique lighting to bring out its character. Moldings are only parallel lines more or less separated and without great significance for the layman. Painted decoration may be endlessly varied in its composition. It may include the cornice, or form a frieze below, or, if the height of the building permits, form a crown including the upper story windows, or it is possible to create a frame for each facade in the case of an isolated house. This exterior decoration can be in sgraffitto of one or more tones, or in fresco, or even in stucco of several tones. In a word, it may be varied absolutely at will. It is enough to have seen the houses of Italy or southern France to realize what beauty and character can be given by painted decoration.

The present moment seems the more opportune for recommending fresco because under the influence of the "Better Homes" movement, efforts are being made to teach painters to imitate the effects of fresco with different colored plaster. There is absolutely no comparison between the simplicity and nobility of fresco and the exaggeration of "jazz" effects, which are suitable at best for a bowling alley. Let me repeat: for equal work fresco is even cheaper because it lasts indefinitely. It has its place in the humblest house as well as in the most sumptuous edifice. Architects should specify it wherever it is a question of covering concrete or brick walls. Everyone will thus be the gainer—the house, the owner, the architect, the artists, the workmen, and the public, not to speak of the cause of art. Even were this latter the only aspect involved, it should be decisive.

This country is rich enough from every point of view to produce and create something beside the copies of antique models which are universally found. Such a day seems not far distant, thanks to the support of the architects. We feel confident that it is sure to come, for which we are profoundly thankful in advance.

The NEED of BETTER DESIGN and WORKMANSHIP in CHIMNEY CONSTRUCTION

Notes By

D. Knickerbacker Boyd

THE fact that the second largest cause of preventable fires is "defective chimneys and flues," is of especial importance to every architect and builder. Because these are classed as preventable causes, indicates, as is quite true, that new chimneys and flues should not be defective and can be properly built.

There are three causes for chimney fires. The first is due to faulty or inadequate construction without flue linings. The second to providing for the connection of more than one apparatus to a flue. The third is due to the flue being too small for its intended use.

In investigations made in over one hundred cities, the conditions were very illuminating and quite astounding as evidencing the lack of uniformity in chimney requirements of the different places. Twenty cities allowed only one connection, while forty-four cities allowed any number to each flue. Others allowed two, three, four, seven, one per floor, one per family, and so on. The National Board of Fire Underwriters and other authorities recommend only one connection to each flue.

On the other hand, 75 cities required flue linings as against 15 which did not require this recognized protection, although fire clay flue linings as recommended by the National Board are only definitely stipulated in 23 of these codes. Gas appliances are required to be vented in 50 out of 91 codes, but only 28 require that a masonry flue be used. This investigation indicated that building codes are not as strict and the provisions are not as careful as they should be.

But even though the provisions are lax, the entire responsibility cannot be placed on the building codes, as there are other factors which have an influence on actual construction. It is impossible for building inspection departments, as they are usually constituted, to supervise constantly all details of construction. Far too many houses are built without architect or supervision of an architect's office. Very often the workmen are not experienced in chimney construction and so, even when properly designed, specified and "coded," the completed chimney may be defective.

The contributory causes of fires due to chimneys can therefore be attributed first to lack of proper building code requirements and secondly to actual construction methods. By specifying proper construction architects can help, by insisting on good workmanship the contractor can do his share, and by giving careful attention to actual construction the bricklayer or mason can accomplish his part in securing correct results. The way to ensure sound chimney construction is through somewhat drastic methods by insisting beforehand that all chimneys shall be tested on completion to determine whether or not they are tight.

All specifications for building construction contain a clause under "masonry work" requiring that before the scaffolding is removed from around any chimney and before any chimney's walls or breasts are plas-

tered, but not until after the mortar has seasoned, each flue shall be given a separate and thorough smoke test by the mason contractor. Leaks into adjacent flues should be especially looked for and not more than one flue shall be tested at one time, and any leaks which may develop shall be promptly made tight before the chimney work will be accepted as satisfactory.

Fires caused by electricity are classed as only partially preventable, yet with the widespread use of electricity it is not responsible for so great a loss as defective chimneys and flues. This can be attributed in part to the national electric code, which regulates the installation of electrical wiring and appliances. But even of more importance in lessening the loss from this cause, especially in all new construction, is the further fact that all electrical installations must be inspected by organizations having jurisdiction and that a certificate must be issued by them before fire insurance policies will be written on the building. Why not the same provision as to every chimney built? The question then naturally arises, why not a national chimney code?

To design and build chimneys according to the provisions of such a code would be perfectly feasible. To inspect all flues and when found tight to issue a certificate to that effect and to make all insurance contingent upon such certificates is surely also but common sense. The chimney ordinance of the National Board of Fire Underwriters could serve as a basis on which a national chimney code could be drawn up and once it was prepared and recognized as authoritative, it could be put into force just as the electrical code now is. With the backing of fire underwriters, fire prevention organizations, architects, contractors, workmen and owners, it would not be long before the fire losses due to defective chimneys and flues would be practically eliminated with respect to new construction.

PEN-AND-INK SKETCH, LOOKING DOWN POWELL STREET, CHINATOWN, SAN FRANCISCO

ARCHITECTURE *and the* LAW
COURT DECISIONS *of* INTEREST *to the* PROFESSION

SOME new phase of the old question involved in the right of the architect to recover his fee, where the work exceeds in cost the amount originally contemplated, comes up quite regularly. One of the most recent cases along this line, with which I have had to deal, involves some rather interesting points, writes Clinton H. Blake, Jr., of the New York Bar in the American Architect.

An architect entered into a written agreement to prepare plans and supervise the construction of a church building substantially in the usual way. It was agreed that he should be paid a commission of six per cent of the total cost of the work, "which includes the cost of the building, immovable fixtures, such as fixed pews or chairs and lighting fixtures." The contract further provided that he should be paid "one per cent of $150,000, the proposed cost of the building," on acceptance of the sketches, "two per cent of $150,000, the proposed cost of the building, when the specifications and working drawings were completed, and the balance as the work proceeded and on the completion of the building.

The contract also provided that, until an estimate was received, the charge should be based on the proposed cost, and that, in case the work were abandoned by the owner, the architect should be paid such percentage of the fee as should represent the services actually performed by him. On the preparation of the sketches the architect was paid the sum of $1500.

While the plans were in course of preparation the client specified various changes which were to be made, increasing the size of portions of the work and consequently the expense thereof. During this period the architect advised the client that the cost would be not less than $250,000, and the plans were increased after this statement had been made. When bids were received, they far exceeded any amount which had been contemplated by the client, and were rejected. The architect offered to revise the plans so as to reduce the cost, but the client rejected this offer also, notified the architect that he considered the contract null and void, that he was not indebted to the architect for any of his services and demanded that the architect return the $1500 which he had received. The client's demand rested on the contention that the architect was bound to design, under these conditions, a building which should not exceed in cost $150,000.

While the contract contemplated the right of the client to abandon the work, the client in this case did not, in effect, do this, but undertook to discharge the architect and to base its contention on its right so to do. Under these conditions the architect is entitled to the damages which he has suffered by reason of the wrongful discharge. If the contract had provided that the building should not exceed in cost $150,000, the client's position on this point would be justified. The answer to its claim in the present instance, however, is that its original directions were changed, that the plans as prepared included the changes which the client directed to be made and that the bids received were based upon the plans as prepared, including the variations made at the instance of the client from

the plan as originally projected. The fact that the contract refers to a proposed cost of $150,000 should not be a bar to the architect's recovery. This phrase may contemplate the fact that the actual cost, as distinguished from the proposed cost, may be higher as well as lower than the figure named.

While the contract only provided for a payment of two per cent on $150,000 on the completion of the working drawings and specifications, if the architect did not send in his bill for the second payment until later, and after the estimates had been received, it would seem proper to allow him to ask for a payment at that time, based upon the lowest actual estimate rather than on the $150,000. The provision in the contract that the architect's charges should be based upon the proposed cost "until an actual estimate is received" carries certainly with it the implication that, when the actual estimate is received, the charge shall be based upon the amount thereof.

It will be noted that under the contract in question only fifty per cent of the basic fee was payable upon the completion of the specifications instead of the usual sixty per cent. In view of this provision the architect, if he is allowed to recover at this point in his services on the basis of the lowest bid, would still have to confine his recovery to a total payment at that time on the amount of the bid of fifty per cent only of the six per cent fee, which, of course, would amount to an aggregate fee to the architect up to that point of three per cent on the amount of the estimate, including the amount paid when the preliminary sketches were prepared.

The contract did not include the usual clause providing that the architect should be compensated for work necessitated by changes in the plans, etc. It might, therefore, be necessary, under such a contract, to vary somewhat the general rule whereby the architect would be entitled to recover the basic fee computed in the ordinary way and in addition thereto the reasonable value of his services in making changes in the plans outside the original scope of the contract. In the case referred to, if the architect were not allowed to recover six per cent on the actual cost, it would certainly be equable that he should be allowed to recover on the basis of six per cent on a cost of $150,000, plus a reasonable charge for the services made necessary by the changes which the client ordered.

By proving that he told the client that the work with the changes proposed would cost $250,000, the architect would in large measure destroy the client's defense that the architect could not sustain his recovery, because the cost of the work exceeded this amount. A client cannot proceed with work after having had full warning that it is going to cost more than he contemplated and then penalize the architect, when it turns out that the warning which the architect gave to him was well founded.

So far as recovering the $1500 from the architect is concerned, it would obviously be unjust to the architect to allow the client to do this. If the contract had stipulated definitely that the $150,000 was a limit, and if no changes had been made at the request of the client, and the work had exceeded the $150,000, the client, under some of the well-known decisions, might have claimed, with justice, that the architect was not entitled to any fee and that, therefore, the $1500 should be repaid. This was not the case here. The contract did not make the $150,000 a definite limit, but merely referred to it as "the proposed cost." It clearly contemplated the possibility that the actual cost might exceed the proposed cost, and, in addition, the client deliberately added to the cost by insisting on variations from the layout and plan originally proposed and on

the basis of which the tentative cost of $150,000 was inserted in the contract.

* * * *

An architect was employed to prepare plans for a building and to supervise its construction for an agreed percentage of the cost in the ordinary way. It was agreed, however, that the fee should be payable three per cent when the plans were adopted and the remainder from time to time as the work progressed and upon the completion of the building, and that the owner should have the right to terminate the contract under certain conditions, upon the payment to the architect of the percentages then due to the latter. When the architect presented his plans he submitted with them his own estimate of the cost of the work. When the bids were received it developed, on account of conditions in the building trade, that the cost as shown by the bids was far in excess of the estimated cost or of the amount for which the owner was willing to erect the building. The contract was not let for this reason. The architect sought to recover on the basis of the bids received.

The court held that, under these special circumstances, his recovery should be limited to the cost shown on his estimate, and that he should only be entitled to recover three per cent for the preparation of the plans plus the agreed percentage on work which had been actually completed, if any, prior to the termination of the contract.

OTHER LEGAL DECISIONS

(Courtesy of The Constructor)

The Plan and the Blue Print

"I want a ten-story concrete apartment house built on my lot on Wilson avenue. You submit the plans to me, and when I've approved them I'll enter into a contract with you to erect a building at a price to be agreed upon," the owner proposed.

The contractor had the plans drawn by a competent architect, submitted blue prints thereof to the owner, the owner heartily approved of the blue prints, a price was agreed upon, and the parties were to meet the next day to sign the contract. At the appointed time and place the owner repudiated the whole agreement, and refused to sign.

"I'll sue you for damages for breach of contract," the contractor threatened.

"You can't do that, for you did not carry out your agreement."

"In what way?"

"You agreed to furnish plans, and all you furnished was blue prints, and blue prints are not plans," the owner contended.

"I'll spend $500 in a law suit, if that's all the defense you've got," the contractor decided, and the Nebraska Supreme Court ruled in his favor in 84 M.W. 401.

* * * *

The Unauthorized Note

"You go up to Boston and buy the hardware for the new Eklo contract," the contractor ordered.

"How'll I arrange payment?" the foreman queried.

"Have them draw drafts attached to bill of lading."

The foreman went to the Athens of America, and bought $1000 worth of hardware from a hardware company.

"Draw a draft attached to bill of lading," the foreman suggested.

"No—you give us a note in the contractor's name, and it'll be good enough for us," the cashier suggested. The note was duly signed, and the contractor refused to pay the same, "nor any part thereof," as the lawyers say.

"My foreman had no authority to give a note in my name," the contractor argued.

"Did you have any authority to sign the note?" the hardware company wired to the foreman.

"None," the foreman wired back.

"We'll sue you for the price of the goods if we can't sue you on the note," the company threatened, and won out in the case of Emerson vs. Province, 12 Mass. 237, and there are Indiana, Missouri and Ohio rulings to the same effect.

* * * *

According to Directions

A Missouri building contract contained the usual clause providing that the builder was to erect and complete the building according to the directions given by the architect from time to time in superintending the construction of the said building, and when it came to the roofing, the architect directed the contractor to use roofing which would cost about ten per cent more than the agreed specifications in the contract.

"I'll do what I agreed to do by the contract, and not one bit more," the contractor stated.

"You agreed to do the work according to my directions and I 'direct' you to use different roofing," the architect pointed out.

The contractor consulted his attorney.

"I'm afraid that clause in the contract is too strong for me," the contractor admitted.

"You're quite safe," the attorney assured him. "All it means is that the architect may give directions to carry out the completion of the work according to the contract, plans and specifications, but does not give him any power to alter the contract."

And the Missouri Courts, in the case of Burk vs. Kansas City, 34 M.W. App. 570, ruled in the contractor's favor.

* * * *

Strikes and Boycotts

The contractor had agreed to erect a building to certain plans and specifications within a certain time limit, but the contract contained a proviso that "the liability of the said contractor to complete the said building within the said time is contingent upon strikes and boycotts."

When the building was about half completed, the brick plant that was furnishing brick for the building was closed down on account of a strike, and, as the strike was a general one in the brick trade, it was impossible for the contractor to procure brick so as to complete the building on time.

"That clause in my contract about strikes and boycotts lets me out," the contractor suggested.

"No, that refers only to strikes of your own employees, not to outside strikes," the owner contended. Both parties went to court, and the New York Courts ruled in the contractor's favor in the case of Milliken vs. Keppler, 38 N.Y.S. 738.

The Verbal Notice

"Provided, however, that this contract may be canceled at any time upon written notice by the architect to the contractor," a building contract specified. The contractor placed the required machinery on the ground, employed the necessary workmen and was ready to start operations.

"You're wanted on the telephone," somebody told him. The contractor went to the telephone in the temporary office he had fitted up, and found the architect at the other end of the line.

"Your contract is canceled and rescinded according to section 7," the architect told him.

"You're the boss," the contractor admitted, and called his foreman.

"The jig's all up here—contract rescinded," the contractor explained. "Move the plant and crew down to the dock contract."

On the way to the new contract, the contractor stopped at his lawyer's office, showed him the contract, and instructed him to sue for damages.

"According to this contract the owner had the right to cancel it at any time," the lawyer pointed out.

"Yes, but it wasn't canceled according to the contract. The contract said notice in writing—all I got was a telephone call."

"Where's your machinery and crew?"

"I moved them to the new job, and they're at work by this time."

The lawyer handed back the contract. "No case," he declared.

"Why not?"

"Because, although you were entitled to written notice, you acted on the verbal notice, pulled up stakes and abandoned the contract. You thereby waived the right to insist on written notice."

And this opinion was good law, according to the decision of the Court of Claims in the case of Kennedy vs. U. S. 24 Ct. Cl. 122.

* * * *

The Architect's Assistant

"The progress payment hereinafter specified shall be made upon the architect's certificate that the work during the preceding month has been done according to the requirements of this contract," clause 11 of a certain building contract specified. At the end of the third month the contractor presented himself at the architect's office—and found the architect's assistant in charge thereof.

"Here's your monthly certificate," the assistant announced, signed the typewritten sheet and flipped it across the desk. The contractor presented the certificate and demanded payment.

"That's all right, but money's mighty scarce right now. Would you mind waiting until the first of next week," the owner queried.

"That'll be satisfactory, but I'll have to pay my help not later than Wednesday," the contractor explained. Next week arrived, the owner still failed to pay, and the contractor sued in the New York Courts.

"No architect's certificate was presented as called for by the contract," was the owner's defense.

"When the owner accepted the assistant's certificate without making any objection on that ground, he waived the requirements of the contract, and it's too late to raise the point now," the contractor's lawyer contended, and the New York Supreme Court upheld this contention in the case of McEntyre vs. Tucker, 31 N.Y.S. 672.

Wrongfully Discharging Architects

The opinion handed down by the Washington Supreme Court in the case of Gould vs. McCormick, 134 Pacific Reporter, 676, shows the proper basis for awarding damages to an architect who has been wrongfully discharged before completion of his contract services.

In that case it appeared that plaintiffs agreed to draw plans and specifications for a nine-story building and supervise its construction for five per cent of the cost of the building. When the structure was about one-third completed plaintiffs were wrongfully discharged by defendant owner and they sued for compensation.

The court recognized that where an architect or contractor is wrongfully discharged he should ordinarily be permitted to recover for work performed at the contract rate and be allowed such profit, if any, as he would have earned through doing the remainder of the work. The court said:

"In the present case the price fixed in the contract for preparing the plans and specifications and superintending the work of the construction was five per cent of the cost of the building. The approximate cost of the building was $325,000. At the time the respondents were discharged, it appears from the evidence that the cost to them of completing the contract would have been $1500. Prior to this time they had been paid the sum of $8000. On this basis, then, applying the rule as above stated, there was a balance due of $6750."

PEN-AND-INK SKETCH BY ROGER BLAINE

HEARING IN AUDITORIUMS EFFECTS OF REVERBERATION

By Vern O. Knudsen Ph.D.
University of California
Southern Branch

THE investigation of the effect of reverberation upon speech reception has not been completed, but sufficient data have been obtained to establish certain important relations between the time of reverberation in a room and the efficiency of that room for the reception of articulated speech. Thus far, tests have been conducted in a small room, (volume 4096 cubic feet), in which the time reverberation could be controlled, and also in a group of fairly large high school auditoriums, having approximately same volumes (about 300,000 cubic feet) and shapes, but having times of reverberation ranging from 7.5 seconds down to 2.8 seconds. The articulation tests were conducted in approximately the same manner as has already been described for the noise tests. The "caller" called out the meaningless speech sounds, in groups of three at a rate of one speech sound each .65 second, and the observers, stationed in representative positions throughout the room, recorded what they heard.

In the small room the time of reverberation was controlled by bringing in different amounts of hair felt. In this way it was possible to reduce the time of reverberation from 5.01 seconds to .60 seconds. The time of reverberation was determined experimentally from 5.01 seconds down to 3.40 seconds. For smaller values it was calculated from the amount of hair felt brought into the room.

The tests were conducted at nights, under fairly quiet conditions. The observer turned his back to the "caller" so that all possibility of lip-reading was eliminated. In these tests, 800 speech sounds were called and recorded for each condition tested.

The results of these tests are shown in Fig. 4. The syllable, vowel and consonant articulations increased almost uniformly as the time of reverberation was decreased. For example, the percentage syllable articulation increased from 61 per cent, with a reverberation of 5.01 seconds, to 93 per cent, with a reverberation of .60 seconds.

There is no indication that the optimum time of reverberation for speech reception had been reached, even at .60 seconds. It is probable that the optimum time of reverberation for speech reception in small rooms is even less than .60 seconds. It seems reasonable to the writer and many of his colleagues that this result should be anticipated. There is an abundant supply of speech energy[8] even when the reverberation is reduced to a small fraction of a second.

8. Fletcher has shown that the loudness of speech can be reduced considerably below the intensity used in these tests without appreciable loss of efficiency for speech reception. See Journal of Franklin Inst., June 1922.

The first paper, "Effects of Noise," appeared in The Architect and Engineer for September, 1926.

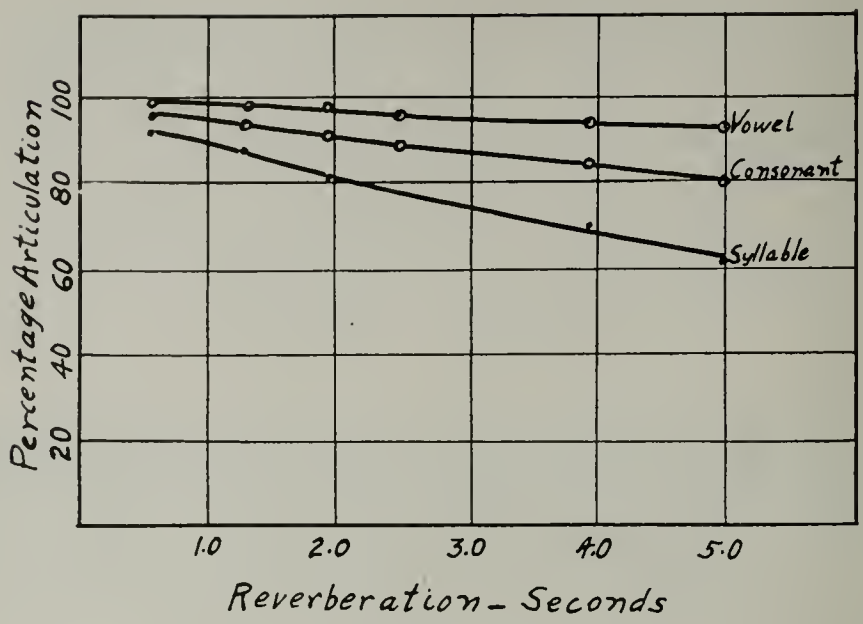

Percentage Articulation
100
80
60
40
20
1.0
2.0
3.0
4.0
5.0
Reverberation - Seconds
Vowel
Consonant
Syllable

FIG. IV

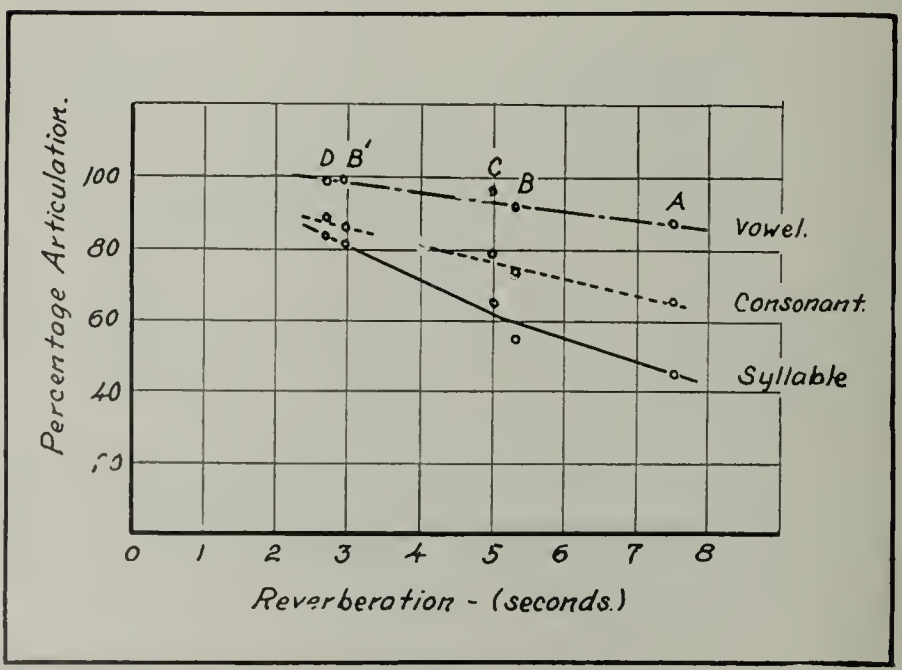

Percentage Articulation.
100
80
60
40
20
0
1
2
3
4
5
6
7
8
Reverberation - (seconds.)
D
B'
C
B
A
Vowel.
Consonant.
Syllable

FIG. V

To further test the effect of diminished reverberation, some speech articulation tests were conducted in a quiet open space where the reverberation is practically nil. The caller and listener occupied approximately the same relative positions as they did in the small room. The speech sounds were called with the same frequency, and, as nearly as possible, with the same loudness, as in the small room. The average results of these tests gave a syllable articulation of 95.7 per cent, a vowel articulation of 99.3 per cent and a consonant articulation of 98.0 per cent. This indicates that hearing conditions are better in the open, where there is no reverberation, than in a small room with a time of reverberation of .60 seconds or more.

Further, tests were conducted in Hollywood Bowl, where the reverberation is practically zero. A listener 100 feet from the caller heard correctly 84 per cent of the called speech sounds. This is a higher percentage of syllable articulation than has been obtained at a distance of 100 feet, in any of the auditoriums investigated in this series. It emphasizes unambiguously the necessity of reducing reverberation in interiors intended for speaking purposes.

The speech tests in the group of high school auditoriums gave results similar to those obtained in the small room. The results of these tests are shown in Fig. 5. The percentage articulation for syllables, vowels and consonants increased almost uniformly as the time of reverberation decreased. For example, in the auditorium having a time of reverberation of 7.5 seconds, the syllable articulation was 43.5 per cent, whereas in the auditorium of nearly the same shape and size, but having a time of reverberation of 2.8 seconds, the syllable articulation was 84 per cent. These results indicate that for very good hearing conditions in auditoriums having volumes of approximately 300,000 cubic feet, the time of reverberation should not exceed approximately 2.75 seconds. The tests were conducted with no audience in the rooms. The presence of an audience would reduce the reverberation, thus improving the hearing conditions, but would also increase the noise, thus impairing the hearing conditions. The improvement, owing to the reduced reverberation, probably would more than offset the impairment, owing to the increased noise. Hence better hearing would be expected with an audience present.

It will be noticed, by comparing Figs. 4 and 5, that for a given time of reverberation, the percentage articulation in the large auditoriums is slightly higher than it is in the smaller room of only one-seventieth the volume of the large rooms. This was not anticipated but might be attributed to louder and more deliberate pronunciation in the larger rooms. Even though effort was made to keep the voice standard in all tests, there was a noticeable tendency to raise the voice and enunciate more carefully in the large auditoriums. Further work is planned in which it is intended to replace the "human caller" by a high quality phonograph. The present article is a report of preliminary work on this problem and the writer wishes to disclaim great precision for these results. The results are, however, sufficiently accurate for practical guidance in the design of architectural interiors. They show very conclusively, in a quantitative manner, the importance of reducing suitably the time of reverberation in rooms intended for the spoken voice. The results also indicate just what improvement should be expected in the acoustics of a room if the time of reverberation be reduced from a known excessive value to a more suitable value. For example, if the time of reverberation in an auditorium having a volume of from 200,000 to 400,000 cubic feet be reduced from 7.0 seconds to 2.5 seconds,

the syllable articulation, in the absence of noise, should be increased from approximately 45 per cent to 86 per cent. When, in the actual case, noise also is a disturbing factor, the percentage articulation would be somewhat lower than the values just given.

The present investigation has not yet proceeded far enough to determine the optimum time of reverberation for speech reception. The results to date, however, indicate that the optimum time for speech is considerably less than the present accepted optimum value for music. However, if the optimum time for music be provided in a room, the acoustics in that room also will be satisfactory for speaking purposes. W. C. Sabine[9] and also F. R. Watson[10] have maintained that rooms intended for music should be more reverberant than rooms intended for the spoken voice. S. Lifschitz[11] presents evidence which indicates that the optimum reverberation for speech is the same as that for music. His values do not differ appreciably from those recommended by Sabine and Watson for music. Marage[12], from a study of six auditoriums in Paris, concludes that for good hearing of vowels, the duration of reverberation should not exceed one second.

The optimum time of reverberation for speech reception advocated by all of these investigators, with the exception of Marage, is somewhat greater than the writer's articulation data would warrant. The different methods employed by Sabine, Watson and Lifschitz on the one hand and by the writer on the other hand would account for this apparent discrepancy. The former arrived at their optimum values from the opinions of competent critics who listened to music or speech in different rooms and judged what condition of reverberation seemed most satisfactory. Such opinions, naturally, are influenced by the experience and the natural endowments of the individual who listens. Civilized man, in recent times, has heard most of his music and conversation in enclosures which are quite reverberant. It is probable that this custom of having public gatherings in reverberant rooms has developed in man a toleration, followed by an appreciation, for a certain amount of reverberation. Thus, it is a common observation that people who enter a radio broadcasting studio, or any other room in which the time of reverberation has been reduced to less than .75 seconds, remark that the room sounds "dead"; sometimes they even complain that the room feels oppressive. Quite to the contrary, however, these same people will observe that it is most easy to converse in such rooms, and that every syllable in articulated speech is heard clearly and distinctly.

It will be noted, by referring again to Fig. 5, that the percentage articulation for auditorium "C" is somewhat greater than the curve indicates, and also that the percentage articulation for auditorium "B" is less than the curve indicates. These departures from the smooth curve are probably attributable, in part at least, to the shapes of the two auditoriums. "A" was wide and short, and the stage extended six feet beyond the proscenium, so that the audience was brought near the stage. Further, the balcony was hung high and did not extend a great distance over the main floor. On the other hand, "B" was narrow and long and the stage was set behind the proscenium. These data suggest therefore that the matter of form should not be ignored in acoustic design, but that it is of much less importance, acoustically, than the adequate suppression of noise and reverberation.

A part of the investigation reported in this article was to determine

9. Loc. cit., p. 107. W. C. Sabine has suggested that the origin of our musical scale may have been based upon reverberation.

10. Loc. cit., pp. 30-32.

the improvement in the acoustics of auditoriums following the usual absorption treatment. Articulation data have been obtained in three different auditoriums, both before and after acoustic treatment. The results of these tests are summarized in Table I.

TABLE I

Auditorium	Volume	Before Correction Reverberation	Before Correction Syllable Articulation	After Correction Reverberation	After Correction Syllable Articulation
A*	320,000 cu. ft.	7.5 sec.	44.0%	3.0 sec.	78.4%
B	280,000 cu. ft.	5.3 sec.	56.3%	3.0 sec.	82.2%
C*	310,000 cu. ft.	5.0 sec.	64.5%	2.9 sec.	76.0%

All three of these auditoriums, before they were corrected, had extremely poor acoustics. A was practically unusable for either speaking or music. The percentage syllable articulations, before correction, indicate that speech reception in all three auditoriums would be wholly unsatisfactory, at least for small audiences. After correction, however, all three of the auditoriums gave percentage syllable articulations which indicate satisfactory hearing conditions, even for very small audiences. Reports from the people in charge of these auditoriums, and observations made by the writer, confirm the results of the articulation tests—the auditoriums after correction were entirely satisfactory for the reception of either speech or music.

A rather interesting observation can be made by comparing the percentage syllable articulation in different parts of an auditorium. This gives, so far as the hearing of speech is concerned, the relative value of seats in various parts of the auditorium. The averages of the tests conducted in the three different auditoriums, both before and after acoustic correction, are given in Table II.

TABLE II

Position	Percentage Syllable Articulation Before Correction	After Correction
Front row, main floor	70.0	90.6
Balcony	55.7	79.8
Middle row, main floor	50.4	83.1
Rear row, under balcony	45.9	72.8

These data, as has been stated, apply to auditoriums with no audiences present. It will be noted that the matter of position is quite important, especially when the auditorium is very reverberant. The data show that the hearing conditions are improved as the auditor approaches the speaker. When the auditor is near the speaker, the speech sounds reaching the auditor are not only louder, but, what is more significant, the interfering effect of the reverberation is much less harmful than for a distant auditor.

It is hoped that the results of the investigation reported in this article will contribute, if ever so little, to the architect's recognition of just how important it is to provide quiet and a suitable condition of reverberation in the auditoriums he designs.

To summarize, the following tentative conclusions, which are of primary interest to architects, would seem to be warranted by these preliminary experiments:

1. Every admissable means should be utilized for the elimination or insulation of disturbing noises. Even very feeble noises may produce a harmful interfering effect upon the reception of speech in

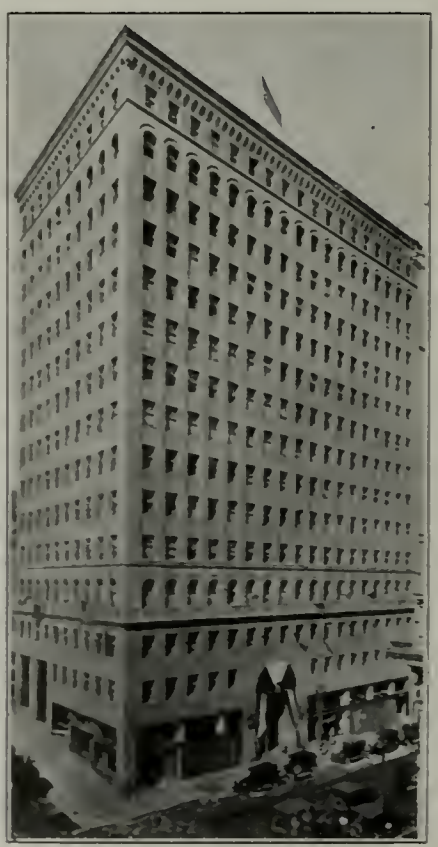
11. Loc. cit.
12. Loc. cit.

*The speech tests in both A and C were disturbed occasionally by passing trolley cars and trucks. Under perfectly quiet conditions, the speech articulation would have been slightly better in these two auditoriums.

auditoriums. The adequate suppression of noise is especially important in the design of large auditoriums, where, because of the large volume of the room, the loudness of speech or music reaching the auditors is greatly diminished.

2. Reverberation probably is the most important factor in determining the acoustics of auditoriums. This, of course, is the conclusion established by the investigations of W. C. Sabine and others, and is supported by the experience of the past twenty-five years. The present investigation shows quantitatively the harmful effect of reverberation upon speech reception.
3. The time of reverberation in small rooms, intended for speaking purposes only, should be reduced to less than 1.0 second for the best hearing conditions.
4. Further tests are necessary to establish the optimum time of reverberation for auditoriums intended primarily for speaking purposes. These preliminary tests show that the optimum time is quite small, perhaps even smaller than is attained or planned in current practice.

University of California,
Southern Branch.
July 14, 1926.



MEDICO-DENTAL BUILDING, SAN FRANCISCO
Geo. W. Kelham, Architect

MEDICO-DENTAL BUILDING

San Francisco

DESIGNED FOR CONTINUITY

By T. B. Hunter

Consulting Engineer

NOWHERE is continuity of service more important, perhaps, than in a building devoted to the treatment of human ailments, the performance of the delicate operations upon which the health of human beings depends. Next to a hospital a building designed solely for physicians and dentists is to be classed in such a group. It must be provided with such installations of machinery as will guarantee uninterrupted service of the requisites to modern surgery, pure water supply, electricity supply, and compressed air supply. These must not fail since the moment of their failure conceivably might be the crucial moment in a delicate operation in which they might play an all important part.

The Medico-Dental Building, located at Post and Mason streets, San Francisco, demanded just this type of mechanical service, a service uninterrupted by any of the accidents of fate, flood or fire. The building was being designed as the model for all such buildings, and therefore, in considering the electrical and mechanical installations, the demand was simple but unmistakable. There must be no failure of any of the essential services of water, electricity or air.

Possibly the most important of the three is water. Therefore elaborate preparations were made in the new Medico-Dental building for water supply and purification. Located in the attic of the building, the water tanks for drinking water, as well as for fire protection, have been housed. The drinking water is cooled by means of a Vulcan ammonia compressor and equipment. This system supplies chilled and purified water to all parts of the building. Spring Valley water is used but provision has been made for well water from the building's own wells in case of failure of the regular city supply. A tank in the basement is provided for well water should occasion to use it require.

The drinking water is run through a filter and then sterilized with ozone to kill all of the bacteria it might contain. The water is chilled to 40 to 45 deg. F., and circulated by means of pumps throughout the building. The overflow is returned to the tanks and rechilled.

Water to the two top stories of the building is supplied from an auxiliary pressure system, the head from the tanks in the attic not being considered sufficient. The intake for this auxiliary system is from the tanks supplying the remainder of the building. Two electrically driven pumps operating a closed pressure tank system with air cushion, supply these two stories with water.

Three pumps in the basement supply water to the tanks in the attic for the water supply systems. The motors are controlled by means of automatic float switches located in the tanks. Three are used, and each

Illustrations courtesy of "Electrical West."

is cross-connected so that no trouble will be experienced. One is used as a standby to insure operation.

A panel board has been developed by us to provide a high and low water alarm in connection with the tanks in the attic. Located in the basement engine room, the panel has on it an 8-inch gong and a red lamp and a 6-inch gong and a green light, both operated from the float switches in the tanks in the attic, the red being to warn of high water and the green of low water. These are signals to provide the engineer with a warning in case the float switches fail to operate the motors running the pumps. The gong gives warning, and the colored lamp indicates whether the motors should be shut down or started. General Electric switches are used on this board, with Auto-call gongs.

Besides the drinking water supply, a fire supply is provided, having

MOTOR EQUIPMENT, MEDICO-DENTAL BUILDING, SAN FRANCISCO
Hunter and Hudson, Mechanical Engineers

separate tanks in the attic. The fire pump is automatically controlled. A small auxiliary fire pump maintains pressure in the lines at all times and takes care of small leaks for which the main pump would not start operating.

Not only is the electrical equipment of the building designed for present day high standards, but provision has been made for increased use of electricity in the future. The main switchboard is 36 feet 6 inches overall, and has provision for separate control of X-ray apparatus, lighting and power.

The X-ray equipment is supplied from a separate bank of transformers leading to a separate section of the main board. A separate service from the main switchboard is run to the X-ray equipment in each individual doctor's office requiring it. This eliminates every possi-

bility of interrupting service to all such apparatus caused by trouble on any individual set.

Every floor is supplied with two lines of 2-inch conduit, at present empty, running from the switchboard to the corridor ceiling. This conduit completely encircles each corridor. Ceiling outlet boxes have been provided at convenient locations so that additional service may be provided as the need may arise with the necessity for only a small hole being made in the corridor ceiling to provide it.

Another line of 1½-inch conduit is run to various parts of the building so that the direct current system may be extended.

One electric riser shaft in the building provides room for all circuits leading up from the main switchboard. Provision is made for an additional riser shaft in case another wing is added to the building later.

Transformers of 1500-watts, 110-volt to 24-volt, to operate the system are located on alternate floors. A push button layout is provided in every suite of sufficient elaborateness to require it. All buzzers are installed in outlet boxes covered with brass plates so as to be concealed. The push button circuits are also concealed. Tone changes are secured in the buzzers, which are all of the same type, to eliminate confusion and multiplicity, by mounting them on materials of various kinds, including wood, felt, brass, etc. Couch annunciators are used where elaborate call systems are necessary, and are set flush with the walls.

Phone cricuits are also concealed, being led to the wiremold and concealed in 1-inch conduit drops. The 1-inch conduit allows sufficient room to care for any type of service required.

An intercommunicating phone system has been installed by Broemmels Pharmacy on the second floor to 36 or 40 offices in the building to provide direct service for prescriptions to physicians desiring them. Circuits for this system have been run in lead covered cable and made in every respect a first-class job.

Several offices are equipped with electric refrigerators to care for vaccine and serum containers. A great deal of special medical equipment has been installed, too, in many doctors' offices. Special provision has been made also for each kind of dental unit, of which there are a large number of types, many quite elaborate.

Compressed air is distributed throughout the building. It is provided from compressors in the basement and piped to each office. To eliminate every possibility of moisture or oil in the compressed air service, however, the air, after compression, is run through two steam separators, then through an aftercooler. The latter device, cooled by water or brine, chills the air and precipitates any residual moisture or oil.

Ventilation has been given extraordinary attention. Located in the attic, near the water tanks, are two large exhaust fans. One exhausts the air from the laboratories and the inside dressing rooms, while the other exhausts the air from inside toilet rooms. A 7½-hp., 870-r.p.m. and a 2-hp., 870 r.p.m. motor accomplish this work.

The Medico-Dental building is unique in many respects, not the least of which is that every tenant is a stockholder in the corporation which owns it. It was designed by George W. Kelham, architect, with William G. Marchant, associated. The Turner Company, mechanical and electrical contractors, were responsible for the mechanical and electric installations, while the Drendell Electrical and Manufacturing Company provided the switchboard. Hunter and Hudson were the consulting electrical engineers.

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LICENSE LAW FOR CONTRACTORS

One of the questions which the California legislature will be asked to consider at its coming session is the licensing of contractors. Many associations have declared in favor of a state license law and it is pretty certain that a bill or bills providing for it will be introduced at the present session. Just what form the proposed legislation may take cannot be forecast, but a measure similar to that obtained by the realtors appears to be favored by most of the associations which have declared their choice. This act was passed by the legislature in 1917 and it has operated both to the benefit of realtors and to the public. It was not drafted on the theory of setting up a technical standard but upon the principle of the permanent elimination of unscrupulous and unfit persons who had brought the realty business into more or less disrepute.

A license law for contractors is sought chiefly to eliminate unscrupulous and irresponsible persons from the contracting business. It is contended if this can be done the responsible and competent contractor will have a better chance and at the same time the public will receive the protection to which it is entitled. Years ago, says the Southwest Contractor and Builder, an act was passed by the legislature to protect the public against misapplication of funds by unscrupulous persons posing as contractors by making the offense a felony, but it was held by the court that the act was invalid on the ground that the offense constituted only a breach of trust. Through a license law such persons could be driven out of business by cancellation of licenses even if they could not be prevented from going into it. However, such a law would make it extremely difficult for unscrupulous persons to engage in contracting because they would hesitate to apply for a license in the face of almost certain detection in any attempt at fraud or dishonorable practice.

BEAUTIFYING THE SKY-LINE

As indicated in previous numbers of this magazine, campaigns have been launched, and are bearing fruit, in New York and Chicago, to rid our communities of "shirt front" architecture and unsightly pent houses and water tanks on the roofs of tall buildings.

A "shirt front" building is one of which only the street elevation is given a finished architectural treatment, the sides and back being of cheaper material, with no attempt at unification with the front.

Architects who design such buildings claim that it is not from incli-

nation but at the behest of the owner or builder who wishes to save money. Those opposed to this style point out that in skyscraper construction the sides and rear of a building are almost as noticeable as the front, and therefore the rough finish of these walls detracts from the beauty of the building and also of the surroundings.

The modern trend in high structures among builders with an eye for beauty as well as utility, is to treat the entire building as a unit, of which the four sides have an equal value, rather than as a pile of masonry with only a fine face. In order to achieve this unity and also to give a more pleasing appearance to sheer walls of buildings in which it is not practicable to place windows, shaded brick often is used to create the impression of windows, niches and set design.

The ugly roof structures, which make the skyline of many cities appear as seas of water tanks and packing boxes, have come in for vigorous condemnation, particularly by city beautiful organizations. And here, the clever architect, aided by an owner who believes the beauty achieved is worth the money expended, is coming to the rescue.

In many modern buildings these unsightly structures are so placed as to form an integral part of the building unit, in other words, placed inside and surrounded by a roof.

In other instances the tanks are concealed by the frame work of a tower or parapet which gives the top of the building both dignity and beauty and lends interest and charm to the skyline.

BUILDING INDUSTRY SOUND

Gratifying soundness underlies the building industry as the new year begins. There is still evidence of a strong national demand for well constructed buildings—constructed in accordance with the rise in American standards. Building costs are well stabilized. Rental conditions are generally satisfactory and there is ample evidence that reports of over-production have been unduly exaggerated. A strong, wholesome tone prevails throughout the industry.

The helpful effect that the great volume of construction, breaking all precedents almost month by month during the year, has had on general business and upon practically every industry in the country, cannot be overestimated. It has not only furnished excellent wages for millions of men in all the building trades, but it has also provided steady employment for the hundreds of thousands of men engaged in the manufacture and transportation of building materials. This creation of new wealth for the country and the widespread enhancement of property values through improvement, means real American progress and prosperity. In view of these beneficial effects on the national business machine, it would indeed be unfortunate if there were to be any radical slowing up in construction activities.

There is still some talk that building costs are too high and that such costs must come down. While there will always be fluctuations when, due to temporary or local conditions, building costs ease up somewhat, it should be kept in mind that present price levels are directly affected by such economic factors as labor, taxation, transportation and other important items on which any marked reductions are improbable.

Building costs, undoubtedly, will remain stabilized at near present levels, and those who are postponing contemplated construction projects expecting pronounced cost decreases are likely to be disappointed. Also our constantly advancing standards of living constitute an influence equally as powerful as any purely economic factor.

Visions Marble Palace

Stephen Child, landscape architect, and a member of the Washington, D. C., Committee of One Hundred, recently addressed the Section on Art, Letters and Music, of the Commonwealth Club, San Francisco, in part as follows:

"Everyone who was here at the time of the Exposition of 1915, remembers the Art Palace, Mr. Maybeck's masterpiece. Everyone regrets its present state of decay.

—This masterpiece should be reproduced in enduring stone.

—We must have not only the superb rotunda and colonnade, but the reflecting pool that doubles the beauty and charm of it all.

—The group could be placed west of the more northerly of the Chain of Lakes in Golden Gate Park.

—It is clear that with but slight changes it would be possible to place the magnificent rotunda almost exactly as at the Exposition, and behind this the colonnade—this time in enduring marble and stone.

—Then, behind the colonnade, its uninteresting architecture hiding itself in the groves already here, we could build the galleries for the collections of art and an art school, buildings conveniently grouped here, and from their very lack of architectural importance, readily built in sections as needed.

—For today at least I shall say no more. I am going to imagine it done; the glowing marbles all in place—the mirror pool fulfilling its purpose—rotunda and colonnades peopled with sculpture and bronze—the galleries filled with art treasures and its school and lecture halls with worthy leaders and hundreds of ardent pupils—a genuine art center—the Art Center of the Pacific Coast and the Golden West.

—Accomplished—a hundred years, a thousand years from now, the world will make its pilgrimage here as it now does to the Parthenon or the Colosseum! Surely they are not more beautiful!

—Is it not a dream worthy of our best efforts to bring to earth!"

Industries Council

Permanent organization of the Construction Industries Council of Southern California was effected at a meeting held at the Alexandria Hotel December 1, C. E. Noerenberg, delegate from Southern California Chapter, American Institute of Architects, being elected president; Ford J. Twaits, delegate from Southern California Chapter, Associated General Contractors, vice-president; E. W. Hokom, delegate from the Heating and Piping Contractors' Association, secretary, and R. W. Stewart, delegate from the Surety Underwriters' Association of Southern California, treasurer.

Veteran Member of State Board Retires

Architect Clarence R. Ward, after nearly twenty years of conscientious service to the State of California, has relinquished the reins as a member of the State Board of Architecture, Northern Division, his long expired term having lately been filled by the appointment of Frederick H. Meyer of San Francisco.

Under the law, the members continue to serve on the board until their successors are appointed. Mr. Ward was first appointed by Governor Gillette in 1907 and he was reappointed by Governors Johnson and Stephens. Writing of his retirement in a letter to The Architect and Engineer, Mr. Ward says:

"I cease my duties with mingled feelings of relief and regret; relief in that I have no longer an onerous job to perform, the emoluments of which consisted principally of criticism. The State pays no salaries and the allowed traveling expenses are negligible. My regrets are that I will no longer be closely associated with a fine group of my profession, and that my former associates and myself have not been able to have some more 'teeth' put into the law.

"Some years ago we introduced a bill into the legislature amending same so that prosecutions would occur in the Superior courts instead of the Police courts. We bumped into a powerful lobby of bungalow builders and for the time being we withdrew the amendment. I hope that our successors will be able to do something with it. The Board is further handicapped by a ruling of the Attorney-General to the effect that all prosecutions shall be through county officers. Not much chance of the country lawyer prosecuting with any enthusiasm his neighbor, the town carpenter, illegally advertising himself as an architect.

"The Board of Control has in the State Treasury a very considerable sum of money which cannot be used for any other purpose than Board of Architecture activities and expenses, and if the State Board were allowed an attorney, much good could be accomplished. The law regulating the practice of architecture, which is one of public safety, was adopted by California immediately after Illinois, which was the first. Since then nearly every state in the Union has adopted such a law based upon that of California. It is a necessary law and a good one so far as it goes and should receive the unqualified support of the architectural profession, as well as the general public."

Residence and Garage

Architect Leonard H. Ford of Oakland has considerable new work on hand, including a $20,000 residence and a $10,000 commercial garage.

Architects' Chapter Meetings

Northern California Chapter, A. I. A.

The last regular meeting of the San Francisco Chapter (now the Northern California Chapter), A. I. A., was held in the rooms of the San Francisco Architectural Club, 523 Pine street, on Tuesday, January 8, at 6:30 p. m.

In place of the regular December meeting, the members of the San Francisco Chapter were invited guests of the Society of Architects of Alameda county at a dinner given at the Athens Athletic Club in Oakland, on Monday, December 20.

President John J. Donovan of the Alameda County Society acted as chairman of the evening, entertaining those present with his own wit and humor, as well as the presentation of a most enjoyable program, in which the Alameda County Society showed talent in the art of music, as well as some most mystifying examples of the black art of magic. Short addresses were made by John Galen Howard and Walter Mathews, who, with Bernard Maybeck, have been elected honorary members of the society. Messrs. John Reid, Jr., Harris Allen, Mr. Frizelle, Chester H. Miller and W. C. Hays spoke in serious or humorous vein, as the spirit moved them. The singing of the quartet, Will Corlett's artistic renditions on the flute to Mr. Frizelle's accompaniment, and the clever card tricks of Mr. Bell, Mr. Howard and Mr. Mathews were greatly enjoyed by all those present.

Southern California Chapter, A. I. A.

David J. Witmer was re-elected president of Southern California Chapter, American Institute of Architects, at the December meeting. Other officers elected were: C. E. Noerenberg, vice-president; Edgar H. Cline, secretary; W. L. Risley, treasurer, and Sumner M. Spaulding, director. The Chapter also elected delegates to the next annual Institute convention, the members selected to represent the Chapter being D. C. Allison, Edwin Bergstrom, Sumner P. Hunt, Pierpont Davis, John C. Austin, Charles H. Cheney and Sumner M. Spaulding. Alternates were chosen as follows: Alfred W. Rea, Gordon B. Kaufman, A. M. Edelman, W. J. Dodd, John Parkinson, Reginald D. Johnson, Myron Hunt. The Chapter is entitled to nine delegates, seven to be elected and the president and secretary, ex-officio.

President Witmer appointed a committee composed of Sumner Hunt, Lloyd Rally, Charles H. Cheney, Eugene Weston and Templeton Johnson to co-operate with Mary Pickford in her efforts to improve architecture and beautify Los Angeles. H. C. Chambers reported on progress and arrangements for the architectural exhibition which is to be held in the Museum of History, Art and Science, Exposition Park, opening January 14 and extending into February. The Chapter voted to make the usual honor awards this year.

Seattle Chapter, A. I. A.

The December meeting of the Washington State Chapter was held at the College Club, Seattle, Thursday, December 2, with a dinner at 6:15 p. m., the Chapter having for its guests Mr. E. S. Goodwin, president of the Seattle City Planning Commission, and Mr. L. Glenn Hall, landscape architect for the Seattle Park Board.

At the conclusion of the dinner the Chapter was pleasantly entertained by Miss Eileen Mulnix, a pupil of Frederick Feringer, with several selections on the piano. The meeting was then called to order by President Thomas, and after the reading of the minutes of the previous meeting Mr. Gove, in the absence of the chairman, Mr. Stephen, reported for the Committee on the Interscholastic Conference, stating that meetings had been held in Tacoma and Seattle and that the proposed conference had awakened considerable interest among the instructors in the schools.

Mr. Schack, chairman of the Nominating Committee, reported the following nominations for officers for the year 1927, to be voted on at the annual meeting:

For president, Harlan Thomas; for first vice-president, Sherwood D. Ford; for second vice-president, Ernest T. Mock; for third vice-president, Harold C. Whitehouse; for secretary, Earl G. Park; for treasurer, Carl Siebrand; for executive committee (3 years), J. Lister Holmes.

A letter having been read from the Seattle City Planning Commission, notifying the Chapter of the expiration of the term of its representatives on the commission, on motion of Mr. Gould it was voted that Mr. Alden be renominated to succeed himself for a term of three years.

Zoning Must Be Based on Public Welfare

(Editorial in San Francisco Chronicle)

In the opinion by which the United States Supreme Court upholds the power of cities to zone their territory, Mr. Justice Sutherland points out clearly that they must use this power reasonably.

Such ordinances, says the opinion, "must find their justification in some aspect of the police power asserted for the public welfare." The opinion goes on to say that the power is not capable of precise definition; that a zoning regulation that might be clearly valid in large cities might be as clearly invalid in small towns. The emphasis is on the point that zoning must be reasonable and for the public welfare.

This certainly means that cities must use common sense in zoning. It is a warning that where zoning is not done intelligently it is not likely to be upheld by the courts. Zoning for the benefit of real estate schemes, zoning at the behest of some influential individual, crazy-quilt zoning to try to please a lot of individuals or scattered interests, are distinctly put in the class of dangerous and uncertain zoning.

The case was brought originally by a real estate firm, which complained that the zoning ordinance of Euclid, a Cleveland suburb, reduced the value of its property by 75 per cent by classifying it as residence instead of business property.

Here would seem to be as good a case as any on which to attack the right of cities to zone their territory. And the plaintiffs put their case on constitutional ground—their property taken away arbitrarily and without compensation.

It is this that makes the decision of the court so far-reaching and important. It adds one more to the list of matters in which that extra-constitutional thing, the police power, can override even constitutional guarantees provided the public welfare demands.

Cities with zoning laws have been awaiting this clearing up of the legality of these ordinances because of the widely differing state court decisions bearing on the question. And realty men have hesitated about going ahead with their plans because of the atmosphere of instability surrounding the whole zoning problem.

The value of zoning depends on its permanence. And on proper zoning depends the orderly growth of cities.

Cities can fix the heights of buildings and prescribe factory districts, residence districts, business districts and other districts so that each may have a place yet none intrude on the other. The court recognizes that city property is essentially created by community life and that individuals cannot convert these community benefits to their own profit without regard for the city as a whole. The community's interest is paramount to the individual's.

POSITIONS AND HELP WANTED

The Architect and Engineer will insert free of charge, items similar to those found below, for the benefit of architects who are in need of draftsmen or draftsmen who are in need of a position. Give experience, qualifications and salary expected.

POSITION WANTED — A recognized Eastern designer would like permanent connection on or near the Pacific Coast. If you now have, or soon expect to have a vacancy, please permit me to present my qualifications. Address Box Y, Architect and Engineer.

ARCHITECT — Certified, middleaged, broad technical and practical experience in California, desires to manage office, write specifications or to take charge of drafting room of a busy rm who will consider association after a satisfactory tryout. At leisure after the first of the year. Box X, Architect and Engineer.

DRAFTSMAN—All-round architectural draftsman of three years' experience (8 months in one office), desires position in San Francisco or East Bay office. Salary $200 per month. Box E, Architect and Engineer.

DRAFTSMAN—Of 28 years' experience, wants position in architee's office in Oakland. Box F, Architect and Engineer.

ARCHITECTURAL DRAFTSMAN—Wants position in Northern California.. Eight years' experience. Walter W. Miller, care Berkeley Y. M. C. A. Phone Berkeley 6710.

HAS POSITION but wishes to better himself. Young man with four years' experience on working drawings and tracings, now emp'oyed, wishes to better himself. Address Box G, Architect and Engineer.

WOMAN DESIGNER on residence work wishes position. Has had five years' experience. Last employed in Palo Alto. Box H, Architect and Engineer.

PARTNERSHIP—Architect, Twenty years' experience New York, foreign countries and twelve months in San Francisco, desires partnership or working arrangement with architect or structural engineer, anywhere in California. Experience includes over six years in engineering and construction work. Box L, Architect and Engineer.

STRUCTURAL DESIGNER — Wants posit'on anywhere in California or on the Coast. Five years' experience. References, Moore Dry Dock Co., Oakland, or J. G. Little, C. E., San Francisco. Address Box K, Architect and Engineer.

ARCHITECTURAL DRAFTSMAN — Position wanted. First-class; ten years' local experience. Pacific 8861—Douglas 6353.

WANTED—Estimator with sales ability for building material concern; one acquainted with Bay City architects who is willing to grow with a firm and not working solely for monthly compensation.

With the Architects

Building Reports and Personal Mention

New Members State Board

Governor Richardson, just before retiring from the position of Chief Executive of the State of California, appointed Frederick H. Meyer a member of the State Board of Architecture to succeed Clarence R. Ward, term expired.

There now remains but one member of the old board, John J. Donovan, the other three new ones all named by Governor Richardson within the past six months being Albert Evers, James Dean of Sacramento and James W. Plachek of Berkeley.

The Governor appointed A. M. Edelman and William H. Wheeler members to succeed themselves in the Southern California District.

Seattle Architects Busy

Stuart & Wheatley are architects for a new hotel, Italian renaissance in design, to be erected on the southwest corner of Fourth avenue and Olive way, Seattle.

The building is estimated to cost $460,000, and is to be constructed of reinforced concrete, faced with pressed brick and terra cotta.

Stuart & Wheatley are also architects for a new apartment or hotel building to be built on the east side of Sixth avenue, near Union street, Seattle.

Designing Many Residences

Architect Willis Huson, 277 Pine street, San Francisco, is preparing plans for several large stucco homes, one on Monterey boulevard, San Francisco, to cost $13,000 and one on Dewey boulevard to cost $12,500; also one in Berkeley for Harry Perry of the Bohemian Club, and a one and one-half story chalet in Thousand Oaks for Preston Burris.

Architectural Exhibition

Plans for an architectural exhibition in the spring which may include showings from architects on both sides of the bay are being formulated, following a joint meeting of the East Bay and San Francisco architects. Ralph E. Wastell, secretary and treasurer of the Society of Architects of Alameda County, is chairman of the committee.

Stockton Hotel

Architect Peter L. Sala has completed plans for a $60,000 hotel of three stories and basement to be built on the west side of Wilson way, between Weber avenue and Channel street, Stockton, for Dr. J. V. Craviotto.

PERSONAL

F. E. Quail, county surveyor of San Joaquin county for 27 years, has resigned to become assistant to T. H. Dennis, maintenance engineer for the California State Highway Commission, with headquarters in Sacramento.

Announcement is made by Hamm & Grant, Inc., architects and engineers, 607 Ferguson building, Los Angeles, that the firm name has been changed to include E. L. Bruner, who has been vice-president since January, 1924. Under the new name of Hamm, Grant & Bruner, Inc., the firm will continue its work in the design and erection of industrial and commercial buildings, in which it has been engaged for the past four years.

Charles H. Cheney has been retained by the city council of Riverside to work out a plan for the future development of that city. Frank C. Nye is president of the City Planning Commission of Riverside.

Wilbur D. Cook, landscape architect of Los Angeles, was the speaker at the weekly luncheon of the Architects' League of Hollywood, his subject being "City Planning."

Architects William J. Jones and Clayton D. Wilson, formerly located at 4078 Arcade block; O. F. Nelson, formerly at 4147 Arcade, and R. C. Stanley, formerly 428 Lumber Exchange, have co-operated in leasing a suite in the Lumber Exchange, Seattle, where offices will be maintained.

O. C. Colegrove, 428 Stock Exchange building, Los Angeles, is revising his files and desires catalogues and literature on building materials and equipment.

Architect Irving C. Miller has moved his office from the Sun building to 333 Cuday street, Los Angeles.

L. F. Mulqueen, architectural designer, has moved his office from the Sun Finance building to suite 518, Lissner building, Los Angeles.

Architects Weeks and Day are preparing to move to the new Financial Center building, California and Montgomery streets, San Francisco.

Ward & Blohme, architects, have removed their offices to the Alaska Commercial building, 310 Sansome street, San Francisco.

Architect Joshua H. Vogel of Seattle, who has been spending the past five and one-half years in China and Japan, as architect for mission organizations, returned to Seattle with his family December 15, where he will remain until next June, expecting then to return to Tokyo, Japan, to supervise work for which his firm of Baker, Vogel & Roush are the architects.

Carol Aronovici, city planning engineer, formerly of Berkeley, has been appointed city planning consultant for the city of Alhambra.

Architect William Lee Wollett, announces the removal of his offices from 1211 Pacific Mutual building, Los Angeles, to suite 733 of the same building.

Hewitt-Miller-Shirey, Inc., has been oganized from the firm of Harwood Hewett, architect, and Norman Miller, engineer. Removal of the offices from the Harris building to suit 609, Petroleum Securities building, Los Angeles, is announced.

Architect H. O. Sexsmith announces the opening of offices in the Taft building, 1680 No. Vine street, Hollywood. Mr. Sexsmith will act as supervising architect for the Hollywood Knolls tract.

Granted Certificates

The following applicants were granted architects' certificates at the last meeting of the California State Board of Architecture, Southern District, December 28: George S. Dudley, 1841 W. Twenty-fourth street; Leland F. Fuller, 1877 W. Thirty-eighth street, and John A. Grundfor, 929 N. Kingsley drive, all of Los Angeles, and Irving Walker, Route 1, Box 1318, Montrose.

The following applicants were granted architects' certificates at the previous meeting of the California State Board of Architecture, Southern District: Charles L. Osborn, 1288 Lexington avenue, Pasadena; Hammond W. Whitsitt, Box 586, Laguna Beach, and Lother Maurer, 1233 S. Serrano avenue, and Clarence J. Smale, 509½ S. Western avenue, Los Angeles.

At a meeting of the California State Board of Architecture (Northern Division), December 28, 1926, the following were granted certificates to practice architecture in this state: William Freeman, 133 Lexington avenue, San Francisco; Harry A. Schary, 624 Mariposa avenue, Oakland.

Ten-Story Hotel

Approximately $150,000 will be expended by G. Paganini in the erection of a 100-room family hotel, ten stories high, at Twentieth avenue and Geary street, San Francisco. The plans are being completed by Architects Fabre & Hildebrand, 110 Sutter street, San Francisco.

Pleasant Journey

Architect A. H. Albertson of Seattle returned in December from attendance at Institute Board meetings in Washington, D. C., and Atlanta, Ga., with interesting visits to Institute members at various other points in the Southeast.

At Charleston, N. C., a dinner was given the Board in an old pre-Revolutionary plantation house on a 5,000-acre estate, the abandoned live oak driveways, draped with Spanish moss, being one of the marvels of the South. At Savannah, Ga., the Board was taken to another old plantation, dignified with great live oaks and with a whipping post remaining as a sign of an earlier period.

On his return to the Pacific Coast, Mr. Albertson visited the Colorado Chapter at Denver and the Utah Chapter at Salt Lake City, both of these Chapters being in his regional district. He reported a valuable innovation in Board meeting procedure, that of having chairmen of Institute Standing Committees meet with the Board and report verbally, in place of sending written communications, as heretofore.

New Summer Resorts

Plans are being prepared for several pretentious summer resorts to be built in Northern California this spring. A Seaview hotel near Watsonville is being planned by Architect Joseph L. Stewart of San Francisco. One hundred cottages and a dance pavilion are planned for the Russian river, near Forestville, by the Del Rio Resort Company of Santa Rosa. A second project for the Russian river is being planned by Architect F. Eugene Barton, Crocker building, San Francisco. There will be a hotel, bathing pavilion, etc., erected near Guerneville, the promoters being the Red Woods Holding Company.

Community Apartments

Architects Reid Brothers, 105 Montgomery street, San Francisco, are completing plans for a fourteen-story Class A community apartment house to be erected on the northwest corner of Union and Leavenworth streets, San Francisco, for the La Mirada Corporation, W. P. Chipman, 625 Market street, manager. The building will contain twenty-two large apartments and will represent an investment of more than $500,000.

Stockton Architects Busy

New work in the office of Architects Davis-Pearce Company of Stockton includes a five-story $200,000 hotel at Napa; a group of high school buildings for the Marysville High School district, $400,000; and a two-story brick store and office building for Max Davidson at Sonora.

Los Angeles County Buildings

Architects Sumner Hunt, Myron Hunt, Edwin Bergstrom, Pierpont Davis and William Richards, associated, have been commissioned by the Board of Supervisors of Los Angeles county to complete plans for the new $8,000,000 general hospital buildings and to prepare plans for a second unit to the museum building at Exposition Park to cost $1,250,000 and for a new hospital building at Olive View sanitarium to cost $200,000. The architects who have been selected to prepare plans for these county buildings comprise the board of directors of the Allied Architects' Association and will complete the plans for the general hospital buildings which were being prepared by Allied Architects' Association until delayed by court action. The county will be given credit for fees already paid.

To Occupy New Quarters

The H. H. Winner Company, specialists in bank architecture, have leased new offices on the fifth floor of the Finance building, 580 Market street, San Francisco, and will move from the Sharon building February 1st. This firm has a considerable volume of work on hand for the new year, including alterations and additions to the Bank of Salinas, which will cost $150,000; bank equipment work for the proposed addition to the First National Bank at San Jose, $175,000, and a new building for the Bank of Cambria, San Luis Obispo county, to cost $25,000.

$700,000 Club Building

A contract for building the new $700,000 San Diego Athletic Club building at the southwest corner of Sixth and "A" streets, San Diego, has been awarded to the Jarboe Construction Company for $492,000. The plans were prepared by Architect William H. Wheeler. The building will be eight stories and will contain hotel rooms, a large gymnasium and a swimming pool.

Class A Theatre

The contract has been let by Architect G. A. Lansburgh of San Francisco and Los Angeles for a Class A theatre, store and office building on Hollywood boulevard, Los Angeles, for Warner Brothers, at a cost of $650,000. The structural steel is being fabricated by the Pacific Rolling Mill Company of San Francisco.

Hotel for Oroville

The Charles C. Maybrey Company of Sacramento will build a $250,000 five-story reinforced concrete hotel at Oroville. Ground will also be broken by the same firm within thirty days for a four-story Elks' Lodge building in the same city.

Professional Charges Investigated

Inferences having been made through various sources of public information, that excessive fees were charged and received by the firm of Bebb & Gould of Seattle, Wash., for architectural services in connection with the first unit of the new Library building at the University of Washington, the Washington State Chapter of the American Institute of Architects, through its Executive Committee, felt obligated on behalf of the Chapter to investigate these charges.

This they have done and have ascertained the following to be the facts:

(a) That in June, 1922, the Board of Regents entered into a contract authorizing the said firm to proceed with the drawings for the said building and for which the minimum fee as stated in the American Institute schedule of 6 per cent should be paid them on the cost of all work executed.

(b) That in addition to the above it was agreed and stated in the contract with the Board of Regents that an additional sum, not to exceed $16,730.00 should be allowed. This sum was to allow for complete studies being made of the entire project which called for four wings enveloping a tower, only the principal wing and tower approach to be included in the first unit. The unusual angles at which these wings and tower united and the structural and mechanical requirements for same made it absolutely necessary that these additional drawings be made. The architects subsequently agreed to do this work at the cost to them and without charge for individual services. This was done and a bill for $6,822.11 was rendered making a saving of $9,907.89 over the amount allowed by the contract. Duplicates of these drawings and all engineering calculations have been filed with the University authorities and are now stored in their vaults. Further it was agreed that when these wings are proceeded with the payment of $6,822.11 shall apply as a part payment on account.

(c) That the intermittent manner in which the building funds became available limited the amount of work which could be let in one contract making it necessary to segregate all parts of the work resulting in forty-five separate contracts on the one structure over a period of four years. For carrying on building construction in the above manner the Code of the American Institute of Architects covering professional charges by the architect recommends an additional charge of 4 per cent. We find that actual charges made by Bebb & Gould for this portion of the work was 2 per cent.

(d) That the sum as stated in the report of Geo. V. Whittle & Co., that they have received $68,481.72, is not a fee on the unit as built but is made up of the following items:

From 6% contract on cost of building ($658,989.12)	$39,539.35
From 6/10 of 6% on that portion of the delivery room, for which complete working drawings were prepared on which the construction has been temporarily postponed	8,940.48
From 2% allowed for segregated contracts	13,179.78
From allowance for studies for completed project	6,822.11
	$68,481.72

Submitted by the Washington State Chapter of the American Institute of Architects, through

Its President, Harlan Thomas.
Its Secretary, H. A. Moldenhour.

$100,000,000 in Building for San Francisco and the Bay Region

BUILDING construction amounting to more than $100,000,000 is predicted for the San Francisco bay region in 1927.

This prediction is based on advance information from architects and engineers who are reported to be busy on plans for various projects, both public and private. According to the reports of the several building departments of thirteen bay cities, permits aggregating over $100,000,000 were issued in 1926 for new construction. Cities included in the forecast aside from San Francisco are Oakland, Berkeley, Alameda, Piedmont, Emeryville, San Leandro, Richmond, Burlingame, Redwood City, Palo Alto, San Mateo and San Rafael.

Some of the larger expenditures contemplated for 1927 are: Extensions to the San Francisco Marine Hospital, $1,500,000; additions to United States Veterans' Hospital, Palo Alto, $1,000,000; new buildings at the University of California, Berkeley, $3,500,000; opera house and museum in Civic Center, San Francisco, $2,000,000; local water front development from $2,000,000 to $5,000,000, and continuation of school building programs in the bay district at a probable outlay of $5,000,000.

In spite of the fact that the carpenters' strike has not been settled, the prospects are good for a brisk spring building season. All of the building trades have received increased wages through the recommendation of the impartial wage board and the mechanics as a whole are satisfied with the prevailing conditions. Two or three large community apartment houses are planned for this year, and their cost will run into several million dollars.

The year just closed proved a record maker in office building construction and prospects are bright for the continuation of this class of building, though possibly on a less pretentious scale.

Several leading hospitals are planning to increase their size. Bakewell & Brown, architects, are designing a new wing for the Children's Hospital, which will cost approximately $400,000, and the same architects have awarded the contract, and construction is now under way on a $750,000 unit for St. Joseph's Institution. Both the Leland Stanford Junior Hospital and the Dante Sanatorium plan big improvements.

Many of San Francisco's leading clubs and churches are reported to have large building programs under consideration for the new year. New banks and theatres are also in line for substantial improvements.

Los Angeles Building Forecast

Los Angeles and other Southern California cities will likely have $74,600,000 worth of construction this year, compared with approximately $75,500,000 a year ago. These figures do not include a vast amount of building started a couple of months or more back which will be carried over into the new year. Except in the survey of public school work which includes both large and small buildings, only projects involving $100,000 or more have been checked. Scores of projects ranging from $10,000 to $100,000 which are certain to go ahead are not included in the total of $74,600,000.

Some shifting in building activities is disclosed by the survey. A marked slowing up in theatre construction is indicated, while increased activity in building of clubhouses, hotels and apartments is noted.

In point of number and valuation, hotel and apartment house projects head the list, there being twenty-six estimated to cost $12,494,000. Office buildings are second in the list, nineteen such projects estimated to cost $11,475,000 being noted. Clubs and lodge buildings furnish the third group, twenty in number, with an estimated valuation of $10,454,500. Hospitals come next, there being seven estimated to cost $8,750,000. A large amount of hospital construction has been recorded during the last two or three years due to city legislation requiring all hospitals more than one story in height to be fireproof, this legislation being retroactive.

Public schools provide the fifth group. These total $8,367,700 for buildings of all sizes. Los Angeles' $35,000,000 school bond issue voted four years ago will be exhausted by the program for 1927, which amounts to only about $3,282,700 for grade and high schools. More school building will be done outside Los Angeles, however, than was scheduled last year, the outside projects amounting to $5,085,000.

White Bros. Oakland Warehouse

Announcement is made that White Brothers, hardwood dealers of San Francisco, will establish an Eastbay plant on High street, between East Twelfth street and the Estuary, Oakland. J. H Pedgrift, contractor, of 4106 Broadway, is erecting warehouses which will accommodate several million feet of oak, ash, hickory, mahogany, walnut, lignum, vitae, Australian iron bark, Philippine mahogany, etc. In this plant the company will handle oak and maple flooring.

Charging for Architectural Service at Cost Plus

CHARLES KYSON, president of the Architectural League of Hollywood, has received a letter from a large architectural firm in New York City, telling of a new system of charging for architectural services successfully used by it. Three other firms, according to the editor of the Journal of the American Institute of Architects, are using a similar system. The New York firm in its letter to President Kyson says:

"What we do with our clients when the subject of professional charges comes up is to say that we find that the scheme of cost-plus charges for architectural services works more equitably for both client and architect. We find that in the long run some clients pay more than the schedule rate for complicated work and others pay less than the schedule rate where the work goes quickly or the design is repetitive in its general nature. With the exception of one or two institutions where any variation from the customary schedule of charge would embarrass the trustees or directors we find that clients acknowledge the fairness of our contention and accept our scheme without hesitation. We make a contract for services which states that we will do the professional work on each particular building at the actual cost to us of all draftsmen's salaries, plus overhead, plus the time of principals at a certain rate previously determined, plus fees paid to consulting engineers, plus one-third profit, plus the cash disbursements (blue prints, traveling expenses, long distance telephone calls, etc.). In order to protect the client against extravagance in our office we add a clause which provides that the maximum amount to be paid by a client to us for our professional services shall not exceed 7 per cent of the cost of the building, in cases where the A. I. A. charge would be 6 per cent; or 8 per cent or even 8½ per cent of the cost of the building where the normal charges would be somewhere around 7 or 7½ per cent, as is the case with small hospital work or complicated structures only slightly repetitive.

"The overhead percentage that we use is actually based on long eperience through a series of years where we find that our general office overhead related to the expenditure for draftsmen's salaries varies from 40 to 66 2-3 per cent. In order to insure against lean years we have generally taken the percentage as high as 60 per cent and as low as 50 per cent, but not lower. Last year when our office was crowded with work (as it is now) our overhead was around 43 per cent, but we established the 50 per cent or 60 per cent figure in our contracts and have never had it objected to. What has actually happened is that we have only once or twice been caught on jobs that were so complicated that our cost-plus system actually ran over the guaranteed maximum percentage mentioned in the contract. I hardly remember a case where this was so except in the case of one small institution where the scheme was completely changed after the estimates were received, and in that case the directors are now considering our claim for repayment of the cost of remaking the plans.

"On the whole, the results have been satisfactory to both sides. We have generally come out lower than the upset percentage price. Sometimes we came out very much lower than that. We have had some very large buildings of the more or less industrial type where both the design and detail were so insignificant compared with the mass of the building that the work has only cost the client between 3 and 4 per cent, and yet the jobs have been profitable to the office. We should not have dared to fix so low a percentage had we guessed in advance at what rate to charge under the schedule.

"To give you an idea of the kind of clients who have accepted this scheme we might mention that we have contracts of this nature at the present time on the buildings for a tuberculosis sanatorium in upper Westchester county amounting to about a million and a half dollars. We have used it in the case of the main buildings for the department store of R. H. Macy & Co. in this city, where new construction work amounted to four and a half millions, and the alterations to the old building to three millions. At the present time we are also building a half-dozen buildings for this and other companies under this arrangement. Of course, we should explain that the cost of the alteration of a big building like Macy's the upset percentage within which we agreed to keep was 10 per cent. Actually the alteration cost the owners around 5 per cent. As before stated, we would not have dared to guess that we could do it at that rate, and yet it figured out that way with all our costs and overhead and profit included.

"This in general is all there is to the scheme. We are not alone in using it. Sturgis of Boston works on this plan and one or two others that we know of have adopted it within recent years. There may be more that we do not know about. We find that the client likes it because he can ask for any reasonable amount of work restudying the plans or working out supplementary schemes in the early stage of design without the embarrass-

ment of always asking how much it is going to cost to do so. On small work we frequently refuse to make any upset percentage figure, saying it all depends entirely on how much work we have to do on the job. Whenever any question is raised as to our high charge on this kind of work (where the building costs are low and the architectural design is complicated) we can always turn to the books and show just exactly how much it cost and also show that the profit we have figured is no more than we figure on any of our larger work. At the same time we are repaid for our exceptional amount of time expended on such small projects by the fact that our own salaries have been repaid, and hence we are not the losers thereby. Each of the principals in our office keeps a fairly accurate record of assignable time on each job and these charges are 'loaded' by a certain addition due to the fact that we spend a good deal of time in general administration which we then spread over the assignable time by this 'loading.'

"Finally, I may say that we have occasionally been criticized by architects who say that we are in position to impose our plan on clients, whereas architects not so favored might find it difficult to do more than stick by the schedule or even work below it. That may be so. However, we have never known a client to refuse to recognize the fairness of our plan."

Distinguished Judge Praises Magazine

Mr. W. J. L. Kierulff, President,
The Architect and Engineer,
San Francisco, Cal.
My dear Mr. Kierulff:

I have examined the October number of The Architect and Engineer with pleasure. In my judgment it is the highest grade magazine of its kind that I have ever seen, especially the illustrations and the cost of building materials for the month. Your publication will go a long way toward preventing the erection of buildings that I can call by no other name than "monstrosities," and there seems to be no reason why a man of moderate means desiring to construct a building should not do so on artistic lines, beautifying the community in which he builds. Almost everyone at some time in his life contemplates building a home or building of some kind, and if the artistic standard of construction is raised in a community everyone benefits. This makes your magazine, although a more or less technical one, of interest to everybody.

I have several friends and former clients who are builders and investors interested in the construction of buildings, and I will let them see what the West is doing. Yours truly,

JUDGE H. C. THOMPSON, JR.
Philadelphia, Pa., Nov. 20, 1926.

Department Store Building

A five-story Class A department store building and theatre is being planned by Architect W. J. Wright of Stockton for the Stockton Dry Goods Company, A. B. Cohn, president. Improvements will represent an investment of $1,500,000.

COMPETITIONS

BEBB PRIZE WINNERS

First prize was awarded to Waldo McKinney in an architectural contest recently held at the University of Washington. The competition was for the fourth annual awarding of the Bebb prize. Designing of a small art gallery to be erected in a downtown section of the city, presented in plan, elevation and section, was the problem. Paul Thiry was awarded second prize and Jack Woodmansee received third mention. The jury was composed of Harlan Thomas, David Myers, J. Lister Holmes, Ernest Williams, Alban Shay and Carl F. Gould.

ALL WOOD HOUSE DESIGN

A prize of $2500 is offered by C. W. Stimson, Seattle lumberman, for an all wood home design which will best present the possibilities of woods native to the Pacific Northwest. Stimson offers the prize through the West Coast Lumber Trade Extension Bureau of Seattle. It is to be awarded in a nation-wide contest that will begin in January and close July 1, 1927. Other prizes in proportion, the bureau officials state, will be awarded. Write to the West Coast Lumbermen's Association, Seattle, for information and program.

MONUMENTAL BUILDING

The Federal Council of the Australian Institute of Architects has issued an invitation to architectural students of not more than 25 years of age, for a competition of measured drawings of an Australian Monumental Building of Historic Interest, the contest to close on April 30th. A bronze medal is offered for the best design; the competition to be judged by three assessors appointed by the Council.

RESIDENCE AND GARAGE

Russell F. Whitehead has been appointed professional adviser of an architectural competition for a residence and garage to be built of Arkansas soft pine. Pencil Points will give four prizes aggregating $1,850. The competition, open to all architects and draftsmen, will close Monday, March 14.

New Dean Appointed

The appointment of Harlan Thomas as Dean of the School of Architecture at the University of Washington, was confirmed by the board of regents, upon the resignation of Carl Gould, who held the office from the opening of the school, which he was largely instrumental in establishing a number of years ago.

American Association of Engineers

The November meeting of Los Angeles Chapter was held on the evening of the 18th. Following the dinner, President Olmsted introduced William Mulholland, Chief Engineer of the Bureau of Water Supply, and famous as the builder of the present Los Angeles Aqueduct.

Mr. Mulholland spoke on the New Aqueduct which he proposes to have the city build to the Colorado river to obtain an additional water supply, which will be required within a very few years because of the continued rapid growth in population, and the necessity of avoiding any danger of a water shortage.

In comparing the cost of the new aqueduct with that of the present one, Mr. Mulholland pointed out that while the total cost would be several times as great as for the earlier project, the cost per capita would be less because of the great increase in population and property values since the building of the Owens River aqueduct.

Mr. Mulholland stated that the water problem of Los Angeles is unique in history. At the present time the area of the city is 430 square miles, which is the greatest in the world. Scattered over this great area is a population of 1,150,000 people. The water department serves this population through 2800 miles of mains and 240,000 service taps, located in seven different zones, ranging from sea level to an elevation of 1400 feet. In spite of all these obstacles the domestic water rate is only thirteen cents per hundred cubic feet, which is lower than the cost in any large city in the United States, with the exception of a few cities located on rivers from which they pump their water. The Owens river aqueduct brings water to Los Angeles from a source approximately 250 miles distant.

The proposed Colorado river aqueduct is dependent upon the building of a high dam, preferably in the vicinity of Boulder Canyon. Such a dam is necessary to insure an adequate supply of water at all times, and to furnish power for pumping, and Mr. Mulholland stated that he would not recommend the building of the aqueduct until the construction of the dam was assured.

The line which has been selected for the proposed aqueduct is approximately 12 per cent longer than an air line from Los Angeles to the point of intake on the river. Four lifts totaling 1300 feet will be required to cross the mountains. So carefully has the intervening territory been surveyed, that Mr. Mulholland offers any engineer or body of engineers $10,000.00 per mile for every mile of distance which can be saved, and $10,000.00 per foot for every foot of lift which can be eliminated from the present plans.

Following the talk by Mr. Mulholland, Mr. H. A. Van Norman, Assistant Chief Engineer of the Bureau of Water Supply, told of the infiltration galleries which are being built in the gravel beds paralleling the river bed at the point selected for the aqueduct intake. By filtering into these galleries from the river, the water is cleared of its silt content and is ready to be pumped into the aqueduct.

W. C. HOGOBOOM,
Secretary.

Engineers Named

A committee of consulting engineers has been retained by Los Angeles county supervisors to make a survey of the $25,000,000 San Gabriel flood control project and submit a report on its technical and economic features. The engineers who were selected on recommendation of Los Angeles Section, American Society of Civil Engineers, will receive from $25,000 to $30,000 for their services plus allowance for unavoidable delay. About sixty working days will be required to complete the survey and report. The engineers selected are: Charles H. Paul, chief engineer of the Miami Conservancy District and builder of the Arrowrock dam, a resident of Dayton, O.; Charles D. Marx, professor of civil engineering at Stanford University and chairman of the Arch Dam Test Committee for the Engineering Foundation, and Frederick H. Fowler, consulting engineer of San Francisco and formerly engineering representative of the Federal Power Commission in California.

Bungalow on Top of Hotel

A $75,000 roof bungalow will be a feature of the $4,000,000 Savoy hotel now under construction at Woodward avenue and Adelaide street, Detroit, Mich. The hotel is to be twelve stories high and will have 800 guest rooms. It will be ready for occupancy in September. It is being built of Bedford stone, light-face pressed brick and terra cotta trim in the architectural style of the northern Italian renaissance. The studio bungalow is an elaborate two-story affair. It will have a front yard, flower garden, terraces and decorative pool. In its two-story living room, 28x46 feet, will be installed an elaborate pipe organ.

Preliminary drawings have been made by Architect Lewis P. Hobart for a roof bungalow on top of the Hotel Fairmont, San Francisco.

Parish House

Plans have been completed and bids taken for a brick veneer parish house and guild hall for St. Clements Episcopal Parish, Berkeley. The architect is B. G. McDougall, 393 Sacramento street, San Francisco.

Department of Commerce Building Code

American lumber standard grades for structural materials have been followed by the Building Code Committee of the Department of Commerce in drafting its recommendations for working stresses for timber. The Committee advises the adoption of the working stresses in municipal building codes.

Engineers of the National Lumber Manufacturers' Association point out that most building codes either fail to mention the stress to which the various materials used in building may be subjected, or do not correlate qualities of materials and permissible stresses. Building materials are not always of exactly the same grade and quality, but building codes frequently take no cognizance of this fact, and restrictions or limitations are frequently uneconomic or wastefully expensive. Sometimes the permissible stresses are suitable only for the poorest quality of material found in the local market, thus putting a premium on poor material and tending to exclude good. A common apology for this state of affairs is that city building departments are not equipped to make the inspections necessary to the enforcement of more exact requirements.

The report under consideration, in making recommendations for unit working stresses for timber, has given values for two grades of all the commonly used species and for an additional grade of Douglas fir and Southern pine. By recommending stresses based on the American Lumber Standard grades, the Committee has utilized the experience and knowledge of the Forest Products Laboratory in their more-than-twenty-year testing program, which is also reflected in the acceptance by various committees of the American Society for Testing Materials and the American Railway Engineering Association of the principles which the Laboratory has promulgated.

An interesting departure from usual practice is the substitution by the committee of a table giving the safe working stresses for rectangular wooden columns for various ratios of length to least dimension. In effect, safe loads in pounds per square inch for the different species and grades and different lengths of columns, instead of the usual column formula. This is one of the results of recent tests on timber columns at the Forest Products Laboratory, from which tests they devised a column formula to replace those now used, and which are conventionally termed "straightline formulas." In a description of the formula, the report gives a word picture of it as being "a fourth-power parabola tangent to the Euler curve at 2/3 the ultimate compressive strength of the material," and states that this is a conservative representation of the law controlling the strength of columns of intermediate length. All of this appears quite mysterious to the layman, and because of the formula for producing such a set of curves being rather complicated and tedious to use, the Committee adopted the table just mentioned, which is the result of the solution of that formula for the different conditions involved. The report states the use of this table, and consequently of the formula, will result in more economical design with timber columns.

The volume should be carefully utilized by all who may have occasion to concern themselves in building design or in building ordinance preparation.

Working Stresses in Building Materials

An examination of many building codes by the Building Code Committee of the United States Department of Commerce has disclosed wide variations in working stress requirements. Much of this, apparently, proceeds from failure to take into account improvements in materials, design, and methods of construction. With these improvements in mind and with the accumulated test data available from recent extensive investigations of the strength of materials, the committee has drawn up recommendations that are believed to combine the utmost in economy consistent with adequate provision for safety.

The materials covered in the committee's report are reinforced concrete, cast iron, steel and timber. The results of numerous tests on these materials have been analyzed and the summarized experience of those skilled in various branches of the construction industry has been obtained.

Outstanding features are the adoption of the water-cement ratio as a means of controlling the ultimate strength of concrete; an allowable "L" of 90 for cast-iron columns, with an increase to 120 when the allowable stress obtained by the given formula is reduced one-third; a basis stress of 18,000 pounds per square inch for steel when the material conforms to A. S. T. M. specifications; and a revised table of timber stresses conforming to the basic grading rules of the American Lumber Standards and derived by methods recently developed by the Forest Products Laboratory.

Emphasis is placed upon competency of design and the desirability from an economic standpoint of increased personnel and facilities for building inspection. Copies of the report, which contains 59 pages, can be purchased from the Superintendent of Documents, Washington, D. C., for 10 cents, currency or money order.

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Cedar Lined Closets

These were thy merchants in all sorts of things, in blue clothes and broidered work and in chests of rich apparel, bound with cords and made of cedar. Ezekial XXVII-24.

SINCE time immemorial cedar has been the wood for wardrobes. In the days of the prophets the rich apparel was kept in chests of cedar. This is vouched for in Holy writ.

In our own day, the closet for the household linen is frequently lined with aromatic cedar. On the Pacific Coast white cedar has been used to some extent, probably because it is a Coast wood. The real aromatic red cedar of the Atlantic States, however, has always been considered to be superior and in the East this is the wood used. The popularity and belief in the efficacy of red cedar is evinced by the immense number of red cedar chests sold by the furniture stores.

Everyone enjoys the pungent fragrance of the wood as well as its moth-repelling qualities. Our matrons particularly like cedar chests. Few, however, know that entire closets can be lined with red cedar, thus making a glorified cedar chest in which fine garments may be hung full length. This wood is supplied in tongue and groove, like flooring. In this form it is called "Ceda'line." It is three-eighths of an inch thick, two inches wide with tongued and grooved edges and the ends matched.

The material is put on by an ordinary carpenter, over the joists in a new house or over the lath and plaster in an old one. Shelves and drawers and special small compartments may be added from the one-inch red cedar lumber which is available at all hardwood dealers.

"Ceda'line" is inexpensive and a closet lined with it makes the clothes closet a big, roomy, moth deterrent compartment of fine appearance and thorough utility.

Architects may provide for these "Ceda'line" closets in their plans and specifications and contractors may readily obtain the necessary material from the hardwood dealers.

Valuable Book

Industrial Buildings and Housing, published by the Architectural Forum for the American Face Brick Association of Chicago, is a handsome book of standard size with beautiful mulberry cover and color inset. The volume of more than 100 pages is replete with information for the architect and builder on the design and construction of factories and industrial buildings. The buildings illustrated are all constructed of brick or faced with brick and show the artistic as well as structural values of this material for industrial structures. The price per copy is $2.00.

Common Brick With Enamel Face

One of the large common brick manufacturers on the Pacific Coast is said to be experimenting with a new type of brick which the inventor declares will make it possible to buy a processed face brick for about the same money as common brick. The idea is simple enough. The architect or owner selects any color he wishes for the outside of his building. This color is enameled or glazed onto one side of the common brick and the colored surface forms the outer wall of the structure.

The fact that any desired color may be produced enables the brick man to compete with the stucco man with the added argument of a fireproof wall. The cost of applying the enamel to the surface of common brick is said to be almost negligible and can be done in the regular process of burning and retouched by unskilled labor. The outcome of the invention is likely to be watched with interest by the building industry in general.

Twenty-Story Hotel

Eugene N. Fritz, Jr., Park Lane Apartments, Sacramento and Mason streets, San Francisco, will have plans prepared for a twenty-story Class A hotel and apartment building 105x120 feet, estimated to cost $1,700,000, to be erected on California street, between Mason and Taylor. It will contain 450 rooms in the hotel section in addition to lounge rooms, lobby and dining room. Mr. Fritz will leave in February for Europe for a period of two months and on his return will have plans prepared for the above building on which he plans to start construction in September of this year.

Mr. Fritz's last building was designed by Architect E. E. Young of San Francisco.

Material Dealers' Association

Alec G. Rhodes of the firm of Rhodes & Jamieson, Oakland, has been elected president of the Building Material Dealers' Association of Northern California; O. C. Barrymore of the Golden Gate Atlas Materials Company of San Francisco is first vice-president; Clarence Minehan of the F. E. Ferrell Company of Stockton, second vice-president; R. H. Borchers of Borchers Bros. of San Jose, third vice-president; William J. Feary of the Western Lime and Cement Company of San Francisco, treasurer, and Frank L. Hatch, secretary.

Concrete Apartment House

Architect Arthur Young, 339 Fifteenth street, Oakland, has prepared plans for a four-story reinforced concrete apartment house to be built at 415 Perkins street, Oakland, for H. C. Cameron. It will cost $75,000.

Rate of Wages Per Hour Paid Journeymen Painters in the United States and Canada

City	Wages per Hour
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*Albany, N. Y.	1.15
Allentown	1.00
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Atlantic City, N. J.	1.50
Baltimore, Md.	.90 - 1.00
Boston-Cambridge, Mass.	1.25
Birmingham, Ala.	.87½
Bridgeport, Conn.	1.25
Buffalo, N. Y.	1.00
Butte, Mont.	1.12½
Canton, Ohio	.80 - 1.10
Chicago, Ill.	.95 - 1.62½
Cincinnati, Ohio	1.25
Cleveland, Ohio	1.25
*Columbus, Ohio	1.00
Dallas, Texas	1.18¾
Davenport-Clinton	1.12½
Dayton, Ohio	1.12½
Denver, Colo.	1.25
Des Moines, Ia.	1.00
*Detroit, Mich.	.80 - 1.00
*Duluth, Minn.	.95
Elizabeth, N. J.	1.37½
*El Paso, Texas	1.00
*Erie, Pa.	1.00
*Fall River, Mass.	.90
*Flint, Mich.	.90 - 1.00
*Fort Wayne, Ind.	.90 - 1.00
Fort Worth, Texas	1.00
*Grand Rapids, Mich.	.75 - .90
*Hartford, Conn.	.90 - 1.25
Houston-Galveston, Texas	1.12½
Indianapolis, Ind.	1.10
*Jacksonville, Fla.	1.00
Jersey City	1.50
Kansas City, Mo.	1.25
*Knoxville, Tenn.	.80 - .90
Lawrence, Mass.	1.00
*Little Rock, Ark.	.40 - .75
*Los Angeles, Cal.	.62½ - .93¾
*Louisville, Ky.	1.12½
Lowell, Mass.	1.00
Lynn, Mass.	1.15
Manchester, N. H.	.90
*Memphis, Tenn.	1.00
*Milwaukee, Wis.	1.00
Miami, Fla.	1.50
*Minneapolis, Minn.	.87½ - .95
*Montreal, Canada	.70
*Nashville, Tenn.	.70 - .87½
Newark, N. J.	1.37½
*New Bedford, Mass.	.90
*New Haven, Conn.	.80 - 1.00
*New Orleans, La.	.80 - 1.35
New York, N. Y.	1.50
*Norfolk, Va.	.75 - .87½
*Oakland-Berkeley, Cal.	1.00
*Oaklahoma City, Okla.	.87½ - 1.00
*Omaha, Neb.	.90 - 1.00
*Ottawa, Can.	.60 - .80
Peoria, Ill.	.90 - 1.00
*Philadelphia, Pa.	1.00
Pittsburgh, Pa.	1.50
*Portland, Ore.	1.00
Reading, Pa.	.90
*Richmond, Va.	.70 - .75
Rochester, N. Y.	1.15
*Rockford, Ill.	.80 - 1.00
Rock Island, Ill.	1.12½
*San Antonio, Texas	.75 - 1.00
*San Diego, Cal.	1.00
*San Francisco, Cal.	1.00 - 1.25
*Salt Lake and Ogden, Utah	1.00
*Savannah, Ga.	.87½
*Seattle, Wash.	1.12½
Schnectady, N. Y.	1.35
Scranton, Pa.	1.12½
Shreveport, La.	1.00
*Sioux City, Ia.	1.00
*Spokane, Wash.	1.00
Springfield-Holyoke, Mass.	1.12½
*St. Joseph, Mo.	1.10
St. Louis, Mo.	1.37½
*St. Paul, Minn.	.95
Syracuse, N. Y.	1.10
*Tacoma, Wash.	1.00
Toledo, Ohio	.90 - 1.00
*Toronto, Can.	.65 - .75
Trenton, N. J.	1.25
Troy, N. Y.	1.00
Tulsa, Okla.	1.00
Utica, N. Y.	1.00
*Vancouver, B. C.	.87½
Washington, D. C.	1.18¾
*Waterbury, Conn.	1.06¼
Wheeling, W. Va.	.90 - 1.00
*Wilmington, Del.	.90
Winnipeg, Man.	.85
Worcester, Mass.	1.10
Youngstown, Ohio	1.25

* Open shop.

Awarded Many Contracts

The following are some of the more important contracts which have been awarded recently to the Home Manufacturing Company, Incorporated, 552 Brannan street, San Francisco:

Housten and Gilmore jewelry store, Post and Stockton streets, remodelling.

Logan and Bryan, stock brokers, new offices on the first floor of Financial Center building, San Francisco. F. H. Meyer, architect.

Pierce-Fair & Co., stock brokers, 438 California street, San Francisco. Cabinet work for new offices. Ward and Blohme, architects.

Perkins' Lunch, 2631 Mission street, San Francisco. Remodelling interior and exterior.

Koffee Kup Restaurant, Eighteenth avenue and Geary street, San Francisco. Remodelling interior.

Canadian-Pacific Railroad office, Monadnock building, San Francisco. Fixture work.

Central Bank of California, Auburn. Extension, interior fixture work.

New store for Zinke's Shoe Renewing Corporation, 977 Market street, San Francisco.

New Plaster Ordinance

Santa Monica has adopted an ordinance regulating plastering and requiring plasterers to be licensed. A Santa Monica newspaper quotes the city commissioners as saying the ordinance is designed to protect investors against irresponsible plastering contractors and to give the city power to enforce the license ordinance against master plasterers who come into the city temporarily from other cities.

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NEW YORK 15 Moore Street

Consolidate

The Stewart Electrical Manufacturing Company and the Electrical Sheet Metal Works of San Francisco have consolidated their business with the Frank Adam Electric Company of St. Louis. The company will be known as the Stewart Works of the Frank Adam Electric Company.

To assure the trade better service, the Frank Adam Electric Company has moved the above mentioned companies to a new factory at 425 Folsom street, San Francisco, and with the facilities of a large sheet metal works, switchboard and panel board, warehouse, drafting rooms and offices, the Frank Adam Electric Company will be able to render complete service on the Pacific Coast.

Course in Building

A course in building construction to develop professional builders with a broad training in building operations, including business and engineering administration, has been established at Massachusetts Institute of Technology, and will begin in the second term in February. The course was founded by Louis J. Horowitz, president of the Thompson-Starrett Company of New York, through a grant from the Louis J. and Mary E. Horowitz Foundation.

Seattle Theatre

Sherwood Ford is architect for a new million dollar theatre for moving pictures, to be located on the northeast double corner of Seventh and Olive way, Seattle. The building is to be fireproof, Class A construction, covering an area of 120x120 feet, planned to seat 3000, with a stage fifty feet deep, a movable orchestra pit, gallery, loge balconies, promenade, lounging rooms, etc.

Ten-Story Building

Lawton & Moldenhour are architects for a ten-story building which is to house mercantile establishments and offices, on the northwest corner of Third avenue and Pike street, Seattle, for the Republic Building Company. The building, which is to cost $750,000, will occupy a space of 108 feet on Pike street and 116 feet on Third avenue, and is to be faced with terra cotta.

Designing Memorial Buildings

The office of Architect Henry H. Meyers, Kohl building, San Francisco, is designing Veterans' Memorial buildings for Berkeley and Alameda. The plans for Oakland's veteran memorial building were finished sometime ago and construction is under way. Mr. Myers recently departed on a six months' trip abroad.

Three-Story Hotel

Plans have been completed by Architect Norman Alpaugh, 2404 West Seventh street, Los Angeles, for a three-story hotel building to be built in Benedict Canyon, near Ventura boulevard. The building will contain 72 rooms and will cost $85,000.

An Old Friend with a New Name

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918 — 12th Street,
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Brick Companies Merged

Two local manufacturers of burned clay products have been added to the chain of eighteen plants owned by the W. S. Dickey Clay Manufacturing Company of Kansas City, Mo., nationally known manufacturers of burned clay products. The transactions involve the California Brick Company, with a plant at Niles, and the Livermore Fire Brick Works, Inc., with plant at Livermore.

The W. S. Dickey Clay Manufacturing Company market their product in thirty-one states, the Hawaiian Islands and Mexico.

The company, which started in 1885 with a single four-kiln unit of about 10,000 tons' capacity, now has an annual production capacity of over 500,000 tons, the equivalent of more than 33,000 carloads, and a net physical worth of over $12,000,000.

Although the Middlewestern and Southern plants are devoted mainly to the manufacture of vitrified sewer pipe and culverts, they turn out a large annual production of segment sewer blocks, hollow building tile, wall coping, silo blocks, fire brick and flue linings. The California plants, now known as the W. S. Dickey Clay Manufacturing Company, Pacific Coast Branch, will continue to specialize in the production of Dickey Mastertile, partition tile, face brick, fire brick, paving blocks and the kindred products for which they are so widely and favorably known.

Alameda Society Architects

An even dozen new members of the Society of Architects of Alameda county were announced at the January meeting of the organization in the Athens Athletic Club building by Ralph A. Wastell, secretary. The society is in a flourishing condition with a total membership now of 56.

The committee to begin arrangements for the architectural exhibit of the society in the spring was appointed by John Donovan, president of the body, and includes Harris Allen, W. R. Yelland, Howard Gilkey, E. G. Bangs, W. E. Schirmer and Chester H. Miller. Participation in the city planning conference in Oakland, March 1 and 2, sponsored by the California League of Municipalities and the California Real Estate Association, was also discussed.

New members are: Arthur Holmes, Oakland building inspector; Albert Farr, Charles Whitton, Ed Blodgett, Howard Gilkey, Eldridge T. Spencer, Henry H. Meyers, Alameda county architect; Arthur Herberger, Alexander Butler, Francis B. Plant, C. A. Dakin and Louis Stone.

San Jose Theatre

Binder and Curtis, architects, 35 West Santa Clara street, have received bids from general contractors to erect a reinforced concrete theatre, seating 1000, costing $75,000, at 1127 The Alameda, San Jose, for Victor Benson.

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Material Entering Into Steel Columns Affects Strength More Than Changes in Type of Construction

RESULTS of tests recently completed on full-sized steel columns at the Bureau of Standards, Department of Commerce, show that under present specifications differences in the physical properties of the material entering into sturdy columns produce greater variation in the column strength than all the differences in type of construction.

This work was conducted in co-operation with the American Bridge Company and the Bethlehem Steel Company. These firms furnished more than 130 tons of steel meeting specifications under which structural steel is usually purchased. This was fabricated into 69 columns having H-shaped sections and of five different types of construction. The finished columns were tested to destruction in the 10,000,000 pound testing machine of the Bureau. Likewise, over 1000 test specimens were cut from the columns and subjected to chemical analysis and physical tests to determine as accurately as possible the properties of the steel from which the columns were made. All of the material met the specifications under which it was furnished, but differed greatly in tensile yield point.

Although much work has already been done on columns, the subject of column strength and method of design, especially in large sizes, is still a matter for so much discussion that the additional data which these tests have furnished will be of great value to engineers.

This work is fully described in Technologic Paper No. 328, copies of which may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 40 cents each.

BOOK REVIEWS

Edited by
CHARLES PETER WEEKS

The Study of Architectural Design, by John F. Harbeson, A. I. A., with foreword by Lloyd Warren; 300 pages, size 9x12 inches, with text and illustrations. Price $7.50 postpaid. Published by Pencil Points Press, Inc., 19 East Twenty-fourth street, New York, N. Y.

This is the fifth and latest book to be published in Pencil Points Library. It is sure to be of great value to all members of the profession. The 300 or more pages are replete with helpful information, carefully edited and generously illustrated. According to the publishers, this is the only authoritative and comprehensive book on the Study of Architectural Design based upon the Atelier System of the Beaux-Arts Institute of Design. It will be found to be of great value to all architects, designers and draftsmen, and to all students of architecture, whether or not engaged upon the program of the Beaux-Arts Institute of Design.

The Table of Contents outlines the purpose of the book and its subject matter so well that it is printed herewith in full:

INTRODUCTION—The Beaux-Arts Method.

FOREWORD—The ANALYTIQUE, by Lloyd Warren.

THE ANALYTIQUE OR ORDER PROBLEM—Chapter I, Taking the Esquisse; II, Preparing for the First Criticism and Laying Out the Schedule; III, Studying the Problem; IV, The Use of Documents; V, Composing the Sheet; VI, Passing to Ink, etc.; VII, Rendering, etc.; VIII, Rendering (concluded).

THE CLASS B PLAN PROBLEM—Chapter I, The Analytique and Plan Problem Compared; II, The Esquisse; III, The Use of Examples of Similar Problems; IV, Character in Design; V, Character in Design; Plan; VI, Size, Scale and Proportion; VII, Size, Scale and Proportion (continued); VIII, Size, Scale and Proportion (concluded); IX, Studying by Means of Mosaic; X, Entourage; XI, Indication; XII, Rendering.

THE ARCHAEOLOGY AND MEASURED DRAWINGS—Chapter I, The Archaeology Projet; II, The Archaeology Projet (concluded); III, The Measured Drawing.

REVIEW—THE CLASS A PROBLEM—Chapter I, The "Ancien"; II, Studying the Plan Projet; III, The Unsymmetrical Plan; IV, The "Grand Plan"; V, Mosaic in Actual Building; VI, The Class A Decorative Projet; VII, Drawing in Class A Projet and in Competitions.

THE SKETCH PROBLEM AND PRIZE PROBLEMS—Chapter I, The Sketch Problem; II, The Paris Prize First Preliminary Competition; III, The Plan Sketch Problem; IV, The Paris Prize Second Preliminary Competition.

CONCLUSION—Chapter I, The Use of Perspective in Atelier Work; II, The Psychology of Success; III, A Background; Index.

Practical Structural Design in timber, steel and concrete, by Ernest McCullough. Third edition, revised and enlarged; 6x9; 416 pages, 224 illustrations. Published by Scientific Book Corporation, 15 East 26th street, New York. Price $4 postpaid.

The third edition of this popular book has just come from the press and is now ready for distribution. For the practical man—the man who has not spent years studying higher mathematics—this work gives a clear working knowledge of every detail of the subject. It is a complete practical treatise on the mechanics of materials, mechanics of structures and structural design, written in plain language, without troublesome mathematics. No calculus is used and where algebraic formulas are necessary, they are fully explained and examples given.

The simplicity of the mathematics used, together with the prominence given to graphical methods makes it as useful to the man who occasionally designs a building as to the detailer who has daily need for a reference book.

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EL CAPITAN THEATRE BUILDING, HOLLYWOOD, CALIFORNIA
EXTERIOR DESIGNED BY MORGAN, WALLS & CLEMENTS, ARCHITECTS

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The ARCHITECT and ENGINEER

VOL. LXXXVIII FEBRUARY, 1927 Number 2

The EL CAPITAN THEATRE and DEPARTMENT STORE BUILDING, HOLLYWOOD

By G. Albert Lansburgh, Architect

IN designing this theatre the problem was to plan a dramatic house that would have rather an exotic character, since the theatre is in Hollywood, where a majority of the residents demand the extraordinary. It was for this reason that I selected the East Indian type which had not heretofore been used in Southern California. The results have been most gratifying. The type seemed to lend admirably to the solution of the problem, since in detail it is graceful and the coloring delightful. Fortunately, we were able to secure the services of Mr. Smeraldi, a decorator, who worked with me in great sympathy.

The theatre seats 1500 and is strictly a dramatic playhouse, with large stage and splendid equipment. A delightfully designed green room for the artists is a feature.

In front of the theatre is a commercial building, the pictures of which show a well executed structure of six stories and basement, and sixty feet in depth. The facade is designed in Spanish and shows the clever imaginative mind of its designers, Messrs. Morgan, Walls and Clements, architects of Los Angeles. This firm also did the exterior entrance lobby which is most attractive.

One of the striking features of the interior of the theatre is the large foyer on the mezzanine, restful though colorful, and very popular with the patrons of the theatre. The building and playhouse were constructed at a total approximate cost of $1,000,000. C. E. Toberman is the owner.

EL CAPITAN THEATRE BUILDING, HOLLYWOOD, CALIFORNIA
EXTERIOR DESIGNED BY MORGAN, WALLS & CLEMENTS, ARCHITECTS

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EXTERIOR DESIGNED BY MORGAN, WALLS & CLEMENTS, ARCHITECTS

DETAIL, EL CAPITAN THEATRE BUILDING, HOLLYWOOD
Exterior designed by Morgan, Walls & Clements, Architects

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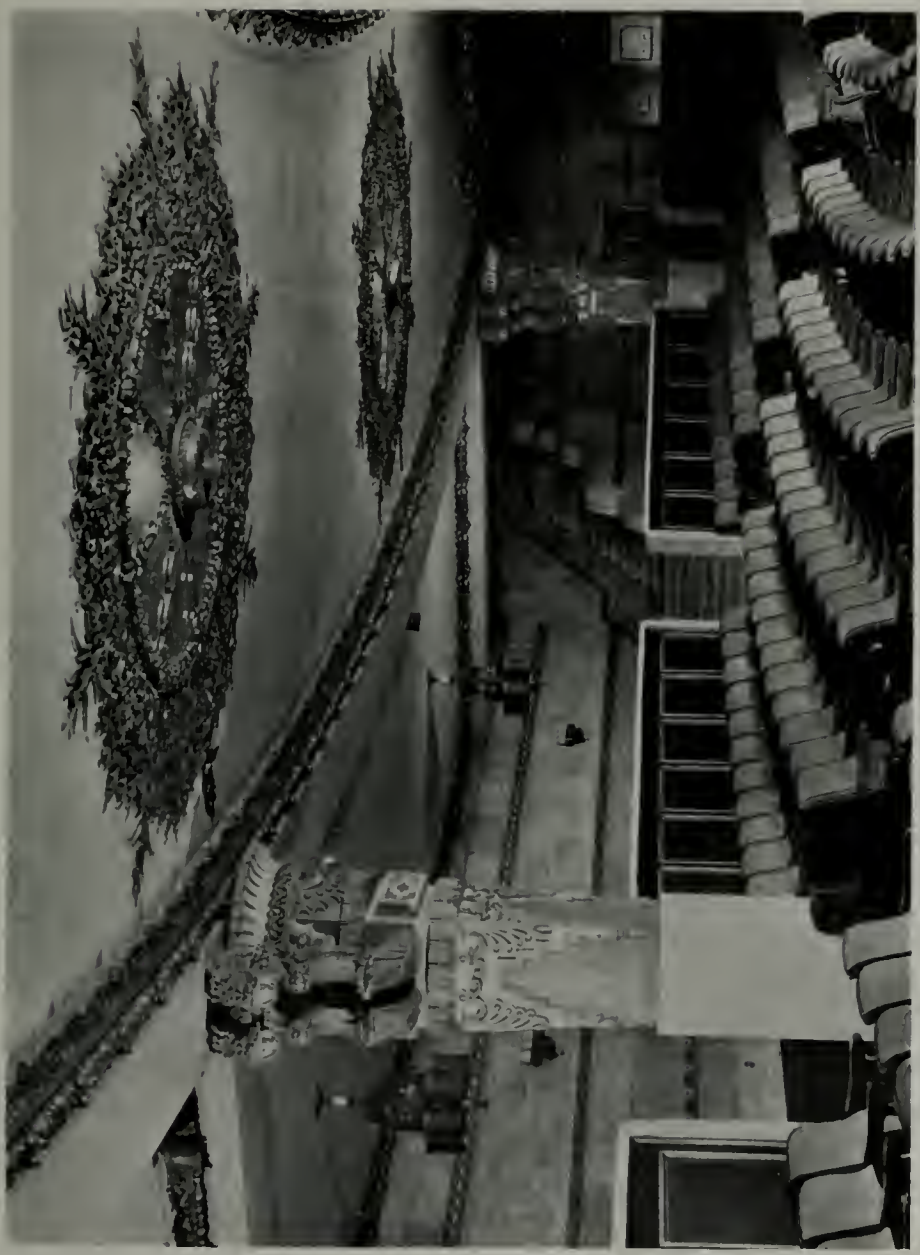
Interior designed by G. A. Lansburgh, Architect



EL CAPITAN THEATRE, HOLLYWOOD, CALIFORNIA
INTERIOR DESIGNED BY G. A. LANSBURGH, ARCHITECT

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EL CAPITAN THEATRE, HOLLYWOOD, CALIFORNIA
INTERIOR DESIGNED BY G. A. LANSBURGH, ARCHITECT

HOTEL CONSTANCE, PASADENA
McNEAL SWASEY, ARCHITECT

The NEW HOTEL CONSTANCE PASADENA, CALIF.

McNEAL SWASEY, ARCHITECT

IN designing the Hotel Constance at Pasadena, Architect McNeal Swasey of Los Angeles felt that the influence of the Mediterranean should be exerted, because of the climatic conditions and environment. How well he has handled the problem is evidenced in the accompanying pictures. The hotel is a monolithic reinforced concrete building, entirely fireproof, and designed to withstand seismic shocks.

"The planning of this building and of any modern hotel of this type on a city street is naturally subject to many restrictions and limitations in design," said Mr. Swasey.

"Recent building construction in Southern California has been developing a style that is almost distinctive and that has resulted from drawing freely from all of the several more or less similar styles of architecture in the different countries about the Mediterranean Sea.

"The detail and the general characteristics of the Constance may be said to be Romanesque in feeling. It is to be noted that the building has been given a tile roof in an effort to indicate that the entire mass has been designed rather than simply stopping at the cornice line and letting the smoke stacks and pent houses project like the proverbially sore thumb, as has been too frequently the case in our buildings in the past."

Along the street fronts minor set-backs have been used to break up the wall surfaces and give interest to the mass. On the property side of the building this was, of course, impossible, and to accomplish a similar purpose gaily colored awnings on wrought iron brackets have been employed. What little embellishments have been used on the exterior are of artificial stone and wrought iron. Simple band courses of run plaster are used to form these embellishments.

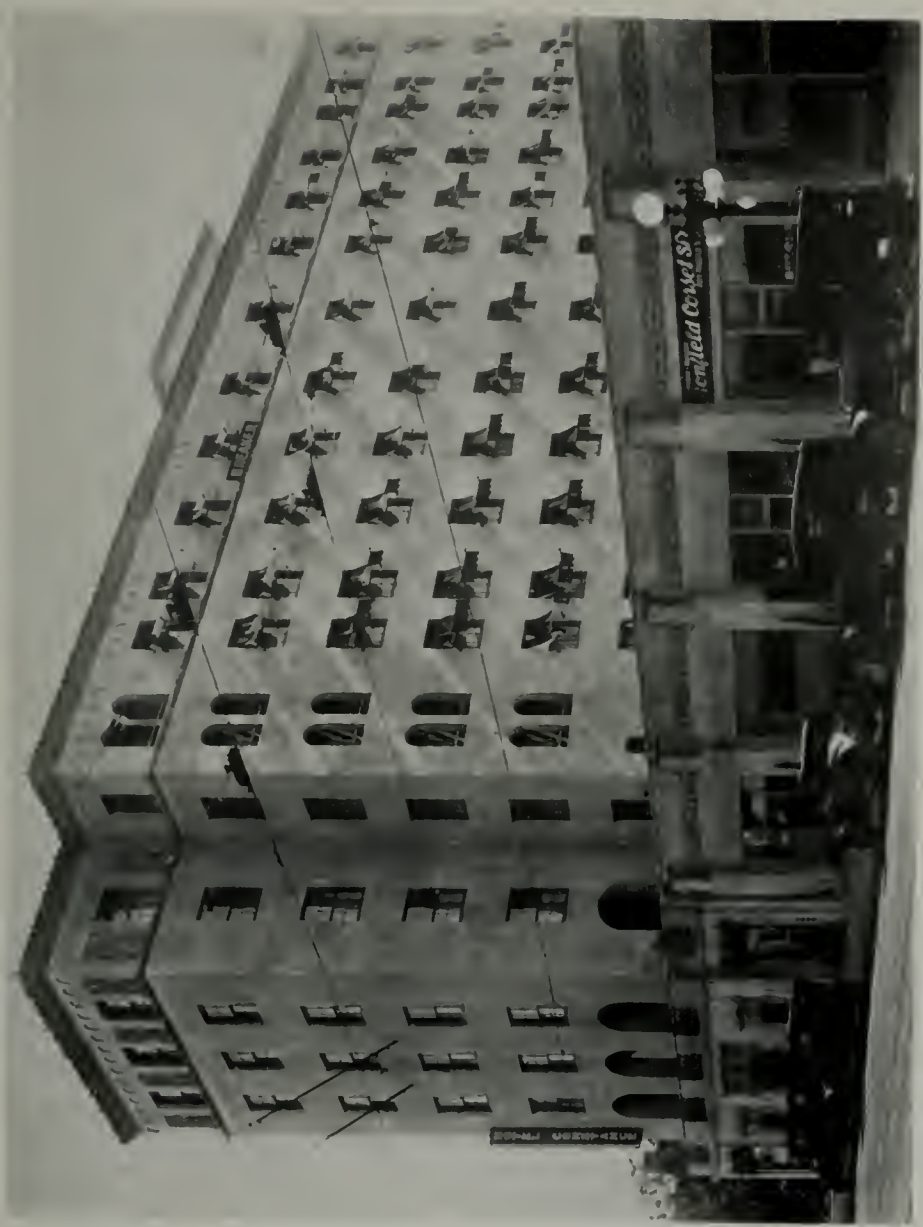
A patio with a covered loggia and enriched with colored tile, desert flagging and semi-tropic planting opens off the lobby in an effort to create an atmosphere that might contrast with that of the average city hotel.

Within the building the thought has been first, comfort with all the necessary conveniences to give it, and, second, cheerfulness. Bright chintzes and cretonnes have been used for hangings.

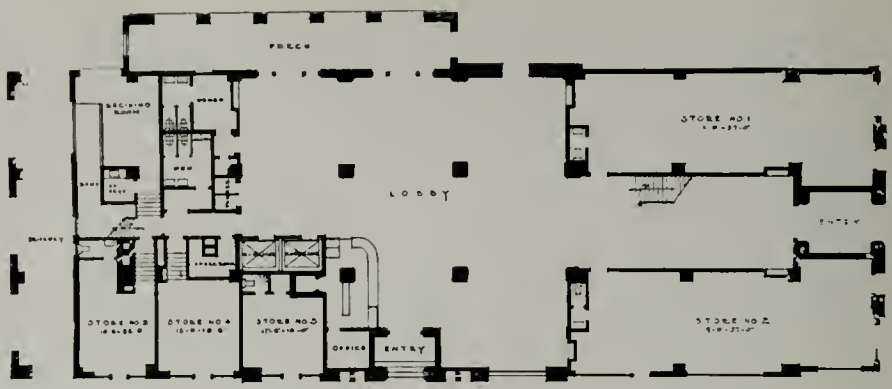
The lobby has been very simply treated. The ceiling is coffered with conventional designs and colored in the sockets, and the whole glazed down to give the impression of old, softened plastered surfaces that might have been found in an Italian villa.

Green, black and red have been used in the spacious cafe because of the inherent cleanliness of these colors and to create a contrast from the soft tones in the lobby adjoining.

LOBBY, HOTEL CONSTANCE, PASADENA
McNEAL, SWASEY, ARCHITECT



HOTEL CONSTANCE, PASADENA
McNEAL SWASEY, ARCHITECT



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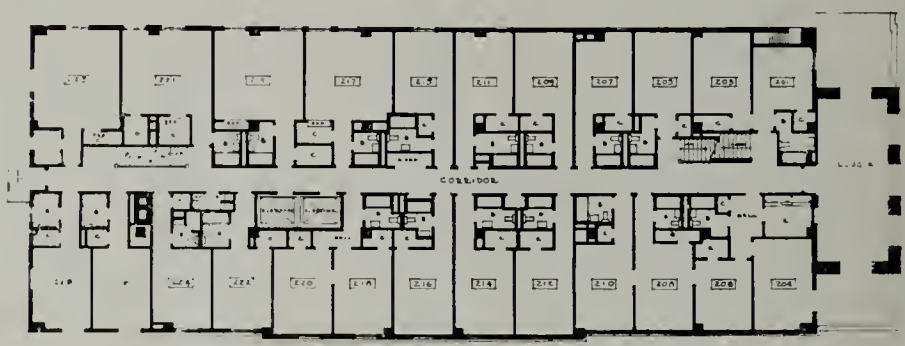

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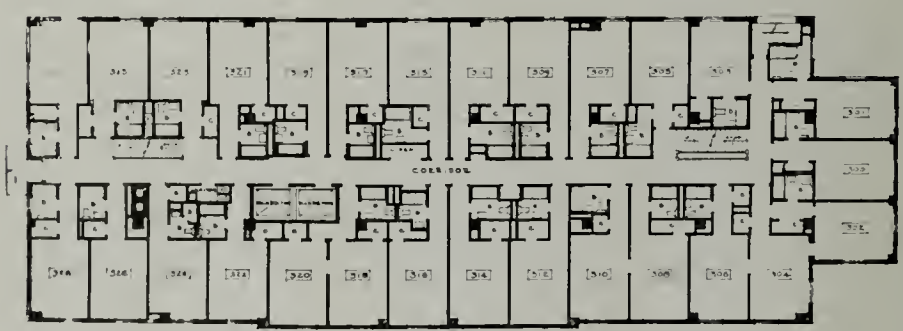

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HOTEL AND STORE BUILDING FOR CONSTANCE INVESTMENT CO
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McNEAL SWASEY ARCHITECT LOS ANGELES

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ENTRANCE, HOTEL CONSTANCE, PASADENA
McNeal Swasey, Architect

ELEVATOR LOBBY, HOTEL CONSTANCE, PASADENA
McNeal Swasey, Architect

PATIO VIEW, HOTEL CONSTANCE, PASADENA
McNEAL SWASEY, ARCHITECT

The SUCCESSFUL ARCHITECT OF TO-DAY SHOULD POSSESS CREATIVE ABILITY

By

CHAS. PETER WEEKS A.I.A.

THE Commonwealth Club recently created the Section of Arts, Letters and Music, and on the last day, so to speak, taking a rib from the Art Section, it created the Sub-section of Architecture.

Architecture is the mother of all the arts; painting and sculpture, her children; music, literature and the drama, her handmaids.

Painting and sculpture in the dawn of art were used to adorn architecture, and today in their more serious aspects are used in the same way.

It was only a few weeks ago that I was asked to take the chairmanship of this Sub-section, and I suppose I should now, at this initial meeting, take my pledge to carry out the objects of the section, namely: "To try to awaken a recognition of the value of art—to ascertain the aesthetic needs of the community—to create a greater and more general interest in art, and to help to make the communities in our state more beautiful and satisfactory to live in."

This Sub-section has had several meetings and discussed different subjects for our activities and outlined future actions.

These activities divide themselves naturally into two groups—educational and creative. The educational activities will have to do with the work in the schools, and with the general public. The creative activities will be along the lines of civic and state improvements.

It might be well right here to say a few words about architects and their work.

The architect's training is a peculiar one. It is more varied than that of most, and as a result, more broadening. Architecture is a dual profession. It is at the same time an art and a business. It is the developing of this dual self that broadens the architect. An architect must have broad vision. He must be able to see a business enterprise in terms of art. He must be able to produce the artistic without losing the eminently practical. This training makes for flexibility of mind; ability to sacrifice this for that to improve the whole. The owner, with all of his technical knowledge, is liable to be too close to the problem to see it in but one light. He cannot see the forest for the trees. The architect gets farther away and looks at the problem from all sides.

Now, this may be a new picture of an architect to most of you. The generally accepted theory is that the contractor builds the building and the architect sticks on a few decorations here and there and calls it architecture; that the contractor has the devil's own time trying to keep the architect from spending all of the client's money. There was a time when this was a true description, but not now. There was a

An address before the Commonwealth Club, San Francisco.

time when the architect thought to bother with such mundane things as estimates, finances, real estate values, contracts and even construction, superintendence and engineering, was too much for his artistic soul. But not today. That idea has gone with the long-haired artist. Both were poses, and the beauty of it is that better, more artistic work is being done now than in those old Bohemian days.

Life is a compromise and the building operation is no exception. It is a continuous problem in choosing which of two elements to sacrifice for the benefit of the whole.

Now beauty is one of these elements, and not an insignificant one. I wish to broaden that a little. By beauty, I really meant art—art in its broadest sense. Art is the language of the spirit; the creation of the reasoning brain; the rationalization of the imagined; the fulfilling of our dreams. This art language is expressed in words of books, the colors of paintings, the hieroglyphics of patterns, the staff of music, the stage gesture. It includes—all striving of the spirit to express its ambitions. We all have the art instincts; the desire to rise out of what we are to what we should like to be; to see created what we have seen in our dreams. Dreams are the stuff that life is made of. Do not despise the dreamer.

* * * *

There was a time when the public was crying for an American architecture. It was tired of constant copies of European buildings. Attempts were made to answer this cry. Men evolved fearful and wonderful works, but this effort went for naught because it was not properly founded. You cannot create an architecture without a necessity for it. New problems have new answers. Limitations produce creations. The automobile was originally a buggy. Today the similarity has ceased to exist. The first skyscraper was a pile of small buildings one on top of another. Today it is a natural artistic solution of the problem of a tall narrow building—its natural movement is vertical, just the opposite of that of the examples that were formerly copied. The architect is not copying Gothic cathedrals in his skyscrapers—he is copying the movement of Gothic lines—thus creating a new architecture, by satisfying a new necessity. This effort on the part of the architect should be encouraged. In Los Angeles, there is a greater freedom of architectural expression. Here in San Francisco, if you cannot show the client some old work you are trying to copy, he is afraid of it—thus creative ability is hampered. Take the Spreckels Museum as an example—a copy, by the order of the client, of the Legion of Honor building. How much better if the architect had been given a chance to creat something of his own. Every artist—in fact, every person should have the courage to express himself in his own way. Do not try to reflect someone else.

There are immediate problems for creative work for this Subsection.

1. We should try for a uniform building code.

2. We should make a survey of the building height problems, particularly what has been done in New York City, and recommend legislation.

3. The theatres throughout the state should be regulated by state law in the same way that apartments and hotels are.

4. Then there is the Civic Center problem, bridge terminals, highway entrances into the city, boulevard parking, Burnham plan development, etc.

5. We should investigate the question of the Exposition Fine Arts Palace, as to the feasibility and advisability of restoring and preserving it as a museum and a monument to California architecture, and to the man who created it.

* * * *

There are two kinds of art education—practical and aesthetic. The latter should be given to all, the former to a limited number, who should become useful artists.

The public should be encouraged to study architecture, not with the idea of practicing the profession, but for its better understanding. How many interior decorators are weak on architectural design? The public should appreciate the general benefit to be derived from unity of design, similarity of buildings. Now our streets look like an architectural sample case. Let us strive for harmonious diversity.

There should be an art center, where lectures, exhibitions and permanent examples of art would be shown. Exhibitions of architecture and art both fine and industrial are held each year in New York City, which are largely attended, and very instructive to the public.

The education of the architectural student is a different matter. For him, we have the architectural School of the University of California at Berkeley. We also have for those who cannot afford to go to college, the San Francisco Architectural Club, consisting of architectural draftsmen, where the problems of the Beaux Arts Institute of Design are solved, and scholarships competed for; scholarships that send the winner to Paris or to the University of Pennsylvania. The art success of architecture depends so much on the draftsman that every assistance should be given him. A scholarship in architecture given him by the Commonwealth Club each year would be of great benefit to architecture throughout the state. Architecture from the art side is not taught in the public schools. They should have at least models and photographs of well known architectural monuments in the public schools.

What becomes of all the art students after they leave school who are not capable of making a living in the fine arts? There is a limit to the number of pictures that can be used. Even with all of the opportunities for mural paintings and sculpture in public and semi-public buildings, there will still be many students whose art urge will result in nothing unless some practical means of using their talent is devised.

There are many lines of industrial art that need good, well trained artists; painting and decorating, modeling for plasterers, the sheet metal and ornamental iron contractor, stone and marble cutters, furniture carvers, wrought iron workers, picture framers, tile manufacturers, all need artists to do their work. Art should be useful. I hope that all branches of this section can co-operate to solve this problem of finding useful work for art to do.

There is no general broad system of art education. There should be one embracing all art activities into such a whole that the teachings of the various branches mesh together. This would produce a united, well organized army of workers to which all of the varied branches of a problem could be assigned, segregated into such units that experts would give the solution and a monument of perfection evolved.

If the Art School could only be developed into a big Art University and Forum of Art so that the entire city would become a body of art students, then Greece would rise again!

KING STREET BRIDGE, HONOLULU, H. T.
Hart Wood, Architect

PIONEERING IN ARCHITECTURE IN HAWAII

By

Loraine E. Kuck.

FOR over a hundred years Hawaii has known other structures than the grass houses in which Captain Cook found the natives living when he discovered the "Sandwich Islands." These are now a great rarity, and Hawaii has buildings of practically all the materials used on the mainland, as well as a few peculiar to the islands, such as blocks of coral and lava rock. Most of the older houses were built very simply of wood, without plastering or even papering inside. Frequently these proved not even weather tight in the occasional tropical storms of wind and rain which visit the islands. But inasmuch as these storms are not accompanied by a temperature change from the unvarying balminess, sufficient to require protection, no particular discomfort resulted. In design these older houses were a fairly faithful reflection of their Victorian contemporaries on the mainland, and there was, apparently, no attempt to seek for an expression that should be even partly Hawaiian.

In only one particular did they make an attempt to adapt themselves to Hawaiian conditions, and that was in the use of the "lanai," 'or large verandah. The earliest missionary houses had these wide porches, and they proved so exactly adapted to the needs of the climate, with their deeply shaded area, through which the cooling trade winds can sweep unobstructed, that they remain the almost invariable feature of all Hawaiian houses that are not copied slavishly after mainland designs.

But with the exception of the lanai, the architecture of the Hawaiian Islands was thoroughly undistinguished until the last five years or so. But since this time, a new spirit has begun to manifest itself, concurrent with the growth in the lay mind all over the country, of an understanding of the fundamental rule of applied art—the beautification of things which are first of all adapted perfectly to their use. This increasing appreciation of what constitutes comfort, charm, and distinction in a

DINING ROOM, RESIDENCE OF DR. JAS. A. MORGAN, HONOLULU
Hart Wood, Architect

building has opened an opportunity for what promises to be a new type of architecture—the Hawaiian, which shall be an expression of the unique conditions to be found in the islands. Any part of the globe having a combination of conditions, as unusual as those found in these mid-Pacific Islands, would seem to promise a unique development of its architecture, if the latter expressed the conditions. And such, indeed, is the promise to be found in the work of the architects who are pioneering in Hawaii.

One of these pioneers, in the attempt to express Hawaii architecturally, is Hart Wood of Honolulu, some of whose work is shown in the accompanying illustrations. It has been his attempt to interpret the requirements of the situation in terms of the known and accepted, and the influence of the Hawaiian climate, setting and cultural surroundings is apparent in more or less conventional forms. The climatic requirement,

as already mentioned, finds its best expression in the lanai, and the adaptation of this to several different styles—for instance, the Colonial and Mediterranean, is shown in some of the pictures.

The natural beauty of the island landscape provides a setting of the kind of which architects dream. Precipitous hills, covered with a soft green verdure through which thrust the vertical walls of brown lava rock, like terraces, form a background, and in front are far-flung vistas of the blue tropic sea, spreading flat to the horizon. Closer at hand, the foreground is splashed with the vivid flowering of trees and shrubs. In such a setting is the residence of Dr. James A. Morgan, built in the rambling Spanish style that allows many vistas from each room, and gives the house in its tropical gardens the appearance of being a part of the landscape. An interesting feature of this house is the long, covered walk leading from the porte cochere to the front door. As at any

LIVING ROOM, RESIDENCE OF DR. JAS. A. MORGAN, HONOLULU
Hart Wood, Architect

moment, gusts of warm, mist-like rain may sweep down on the house from the Nuuanu pali above, this walk is not only covered, but protected on the "mauka," or mountain side, by a wall, having openings with stucco grills at intervals which give interesting glimpses of the garden to those approaching the house through this covered way.

Another interesting residence is that of Mrs. C. M. Cooke, which has been designed in the Chinese manner to supply a proper setting for its furnishings of Chinese art. This house is interesting, not only because it is unusual and almost unique in its style derivation, but because it probably indicates the future influence of the Orient on the architecture of Hawaii. As the stepping stone between the Occident and the Orient, the islands feel the effect of both in many ways, and the cultural effect of the East will doubtless grow stronger as the Hawaiian population of Oriental ancestry recognizes the artistic treasures of its homeland.

RESIDENCE OF MRS. C. M. COOKE, HONOLULU
HART WOOD,
ARCHITECT

ENTRANCE COURT, RESIDENCE OF MRS. C. M. COOKE, HONOLULU
HART WOOD, ARCHITECT

RESIDENCE OF FRANCIS I. BROWN, HONOLULU
HART WOOD, ARCHITECT

RESIDENCE OF DR. JAS. A. MORGAN, HONOLULU
HART WOOD, ARCHITECT

RESIDENCE OF HERMAN V. VON HOLT, HONOLULU
HART WOOD,
ARCHITECT

As a preface to Mr. Greenleaf's article, it may be stated that the Pacific Coast Chapter of the American Society of Landscape Architects is endeavoring to put over in California a campaign of education which has for its purpose the creation of a distinguishing difference in the mind of the average individual between the technically and highly trained designer of landscapes, professionally referred to as a Landscape Architect, and the gardening class who are quite properly landscape gardeners, but not landscape architects either by training or experience. The Chapter members have discovered that in the majority of cases where these gardeners attempt to design as well as execute landscape work, the client usually finds himself extremely dissatisfied with the final results, and thereby secures a wrong impression of landscape architects and landscape architecture in their highest forms.—EDITOR.

LANDSCAPE ARCHITECTS ARE NOT LANDSCAPE GARDNERS

BY JAMES L. GREENLEAF, PRESIDENT,
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.

THE request is made for a brief paper on what the American Society of Landscape Architects has done for the profession, and the reply may be truthfully made that the Society created it. This seems a rather sweeping and unfounded assertion. Broad it is; but unfounded—not a bit. Two years ago, at the dinner honoring the completion of the first quarter century of the Society's existence, I uttered this idea, and further thought only seems to confirm its truth.

At that ceremony I developed the thought, as now recalled, along these lines: A true art has its origin in the deep-seated, living springs, from which flow the life-giving forces of a race. From this point of view, landscape architecture, as an art, traces its beginning back through successive civilizations to the dawn of history and, in its broadest sense, is coeval with the time when "the Spirit of God moved upon the face of the waters—and God said, let the dry land appear."

In distinction from an art, whenever a group of humans, individually active along the same line of endeavor in using materials and forces for production of either scientific or art effects,—whenever such a group develops a spirit of class consciousness, that moment a profession is born. And so I think it may truthfully be said that, as a profession, landscape architecture came into being some twenty-seven years ago when a dozen or more in this country practicing the art of landscape architecture banded, for the first time in history, to establish the professional society, the American Society of Landscape Architects. Individuals had through the ages practiced the art, but, until then, there was no group which recognized landscape architecture as a profession. So much (and is it small?) has the Society done for the profession.

But, although the parent of the profession, this is not the end, since it is the beginning of the claim of the Society upon the faithful allegiance of all practitioners. Starting in a small way, with very few of the public realizing even the existence of landscape art, and fewer still knowing what the profession stood for, against obstacles of indifference and in some instances against antagonism, the Society has steadfastly upheld

Reprinted from *The Vista by the American Society of Landscape Architects.*

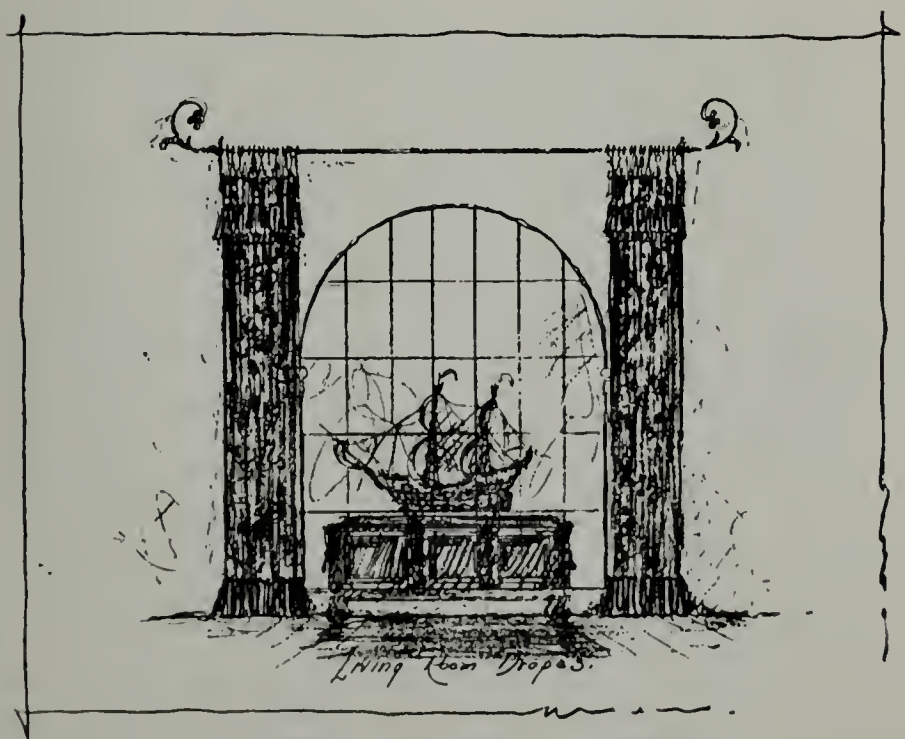
ideals of the art and ideals of professional practice. It has stood for good art and for decency in professional relations, until now the influential part of the public generally is coming to recognize what the title landscape architect means and to respect it. The evidence of this is unmistakable and is cumulative. And this, let me add, is true not solely in the older developed regions of the country; recognition of the art and of the profession is growing wherever practitioners are doing worthy work and doing it under high ideals of professional practice. For the setting of standards and the steady influence upon the public and the uplift of the practitioners themselves, we may thank the influences of the American Society of Landscape Architects.

Only yesterday, as I write this, I lunched in company with one of the older and prominent structural architects of the Atlantic Coast, who remarked that in the earlier days he made the trip at regular periods to his branch office in one of our largest mid-west cities. "At that time," said he, "I could do a successful business there in that manner because in the whole big town there was just one resident architect of ability practicing on truly professional lines. All the other so-called architects were either in the employ of or in 'cahoots' with the building contractors." The influence of the American Institute of Architects and the development of the professional ideal among the structural architects has brought a vast change for the better in that city. Is not, I ask, the influence of the American Society of Landscape Architects and the growth of the professional ideal which it strives by every means to foster, doing its similar good work year by year in your own home region, wherever it may be? If this is not apparent, the more need for those in such a region to take courageous and definite footing upon professional standards and they will win out. A woman of influence in the highest council of the Garden Club of America, that nation-wide and influential organization, said to me very recently: "The day is fast passing when people will fail to distinguish between the work of the commercial man and the productions of the well qualified landscape architect; we are demanding better art in our home surroundings than the productions solely of shop and trade." In such facts the young practitioner may well take heart of courage and hold fast to his ideals against all onslaughts of commercialism.

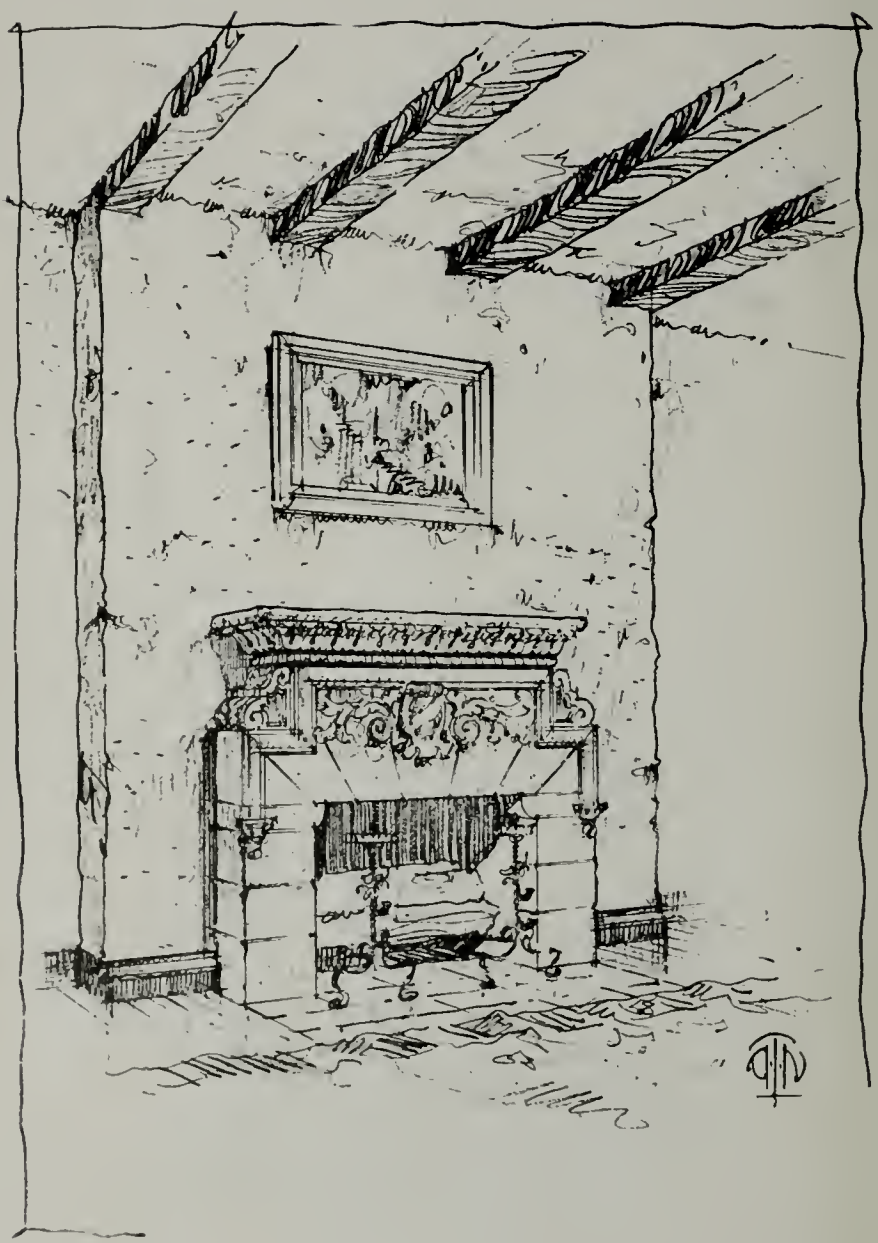
A PORTFOLIO OF INTERIORS & FURNITURE

By

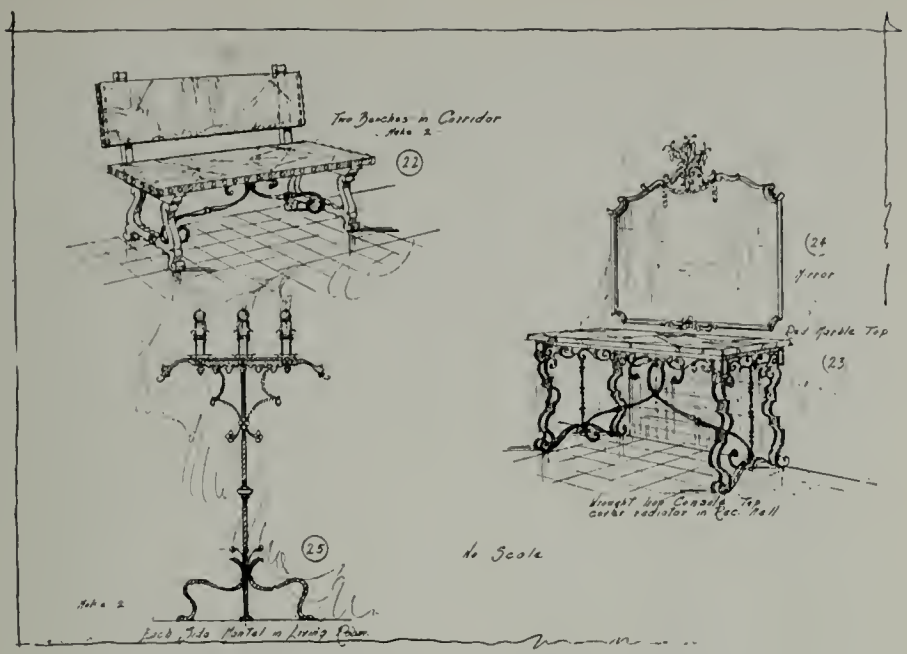
SIDNEY B. NOBLE, & ARCHIE T. NEWSOM.
ARCHITECTS.
SAN FRANCISCO.



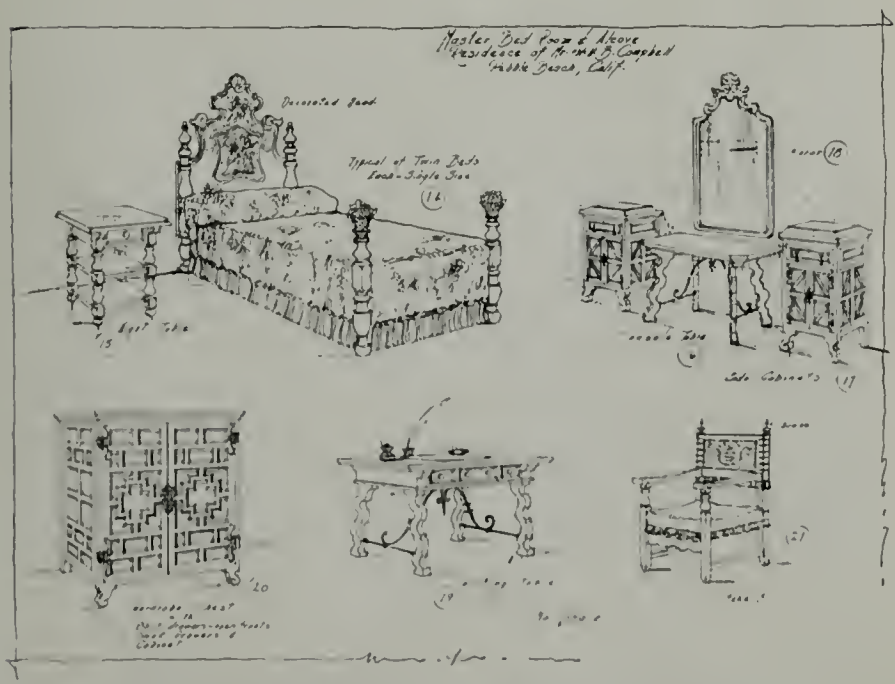
OCEAN VIEW WINDOW IN THE W. V. B. CAMPBELL HOUSE, PEBBLE BEACH



LIBRARY MANTEL, HOUSE OF C. D. BATES, JR., PIEDMONT



FURNITURE IN HOME OF W. V. B. CAMPBELL, PEBBLE BEACH



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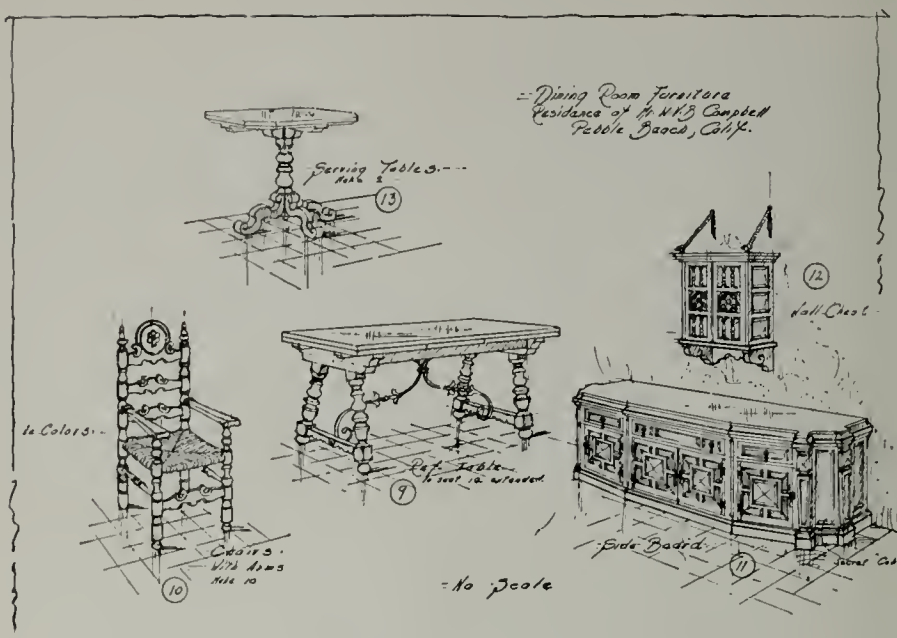

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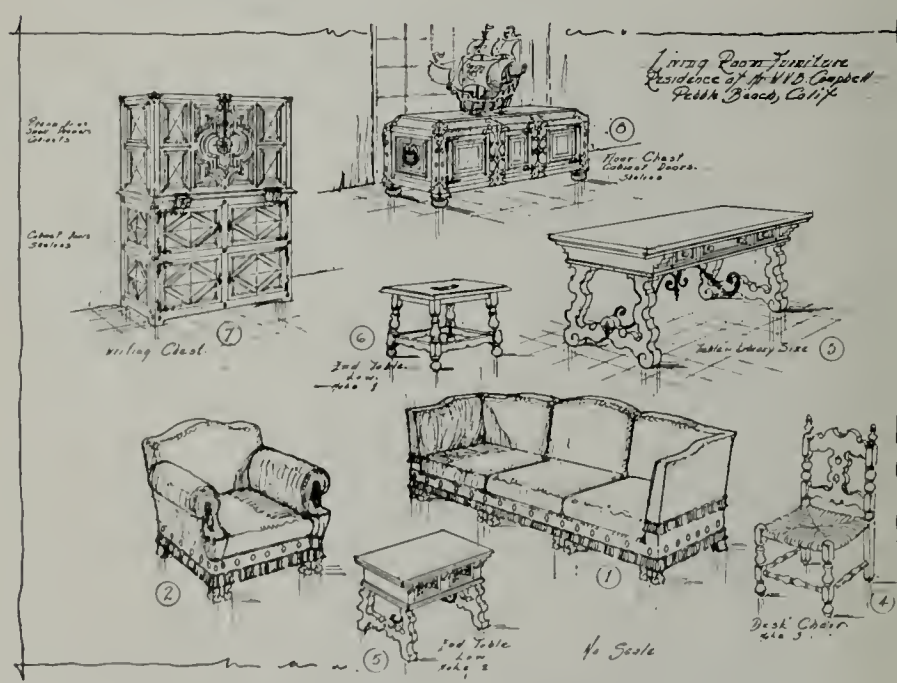
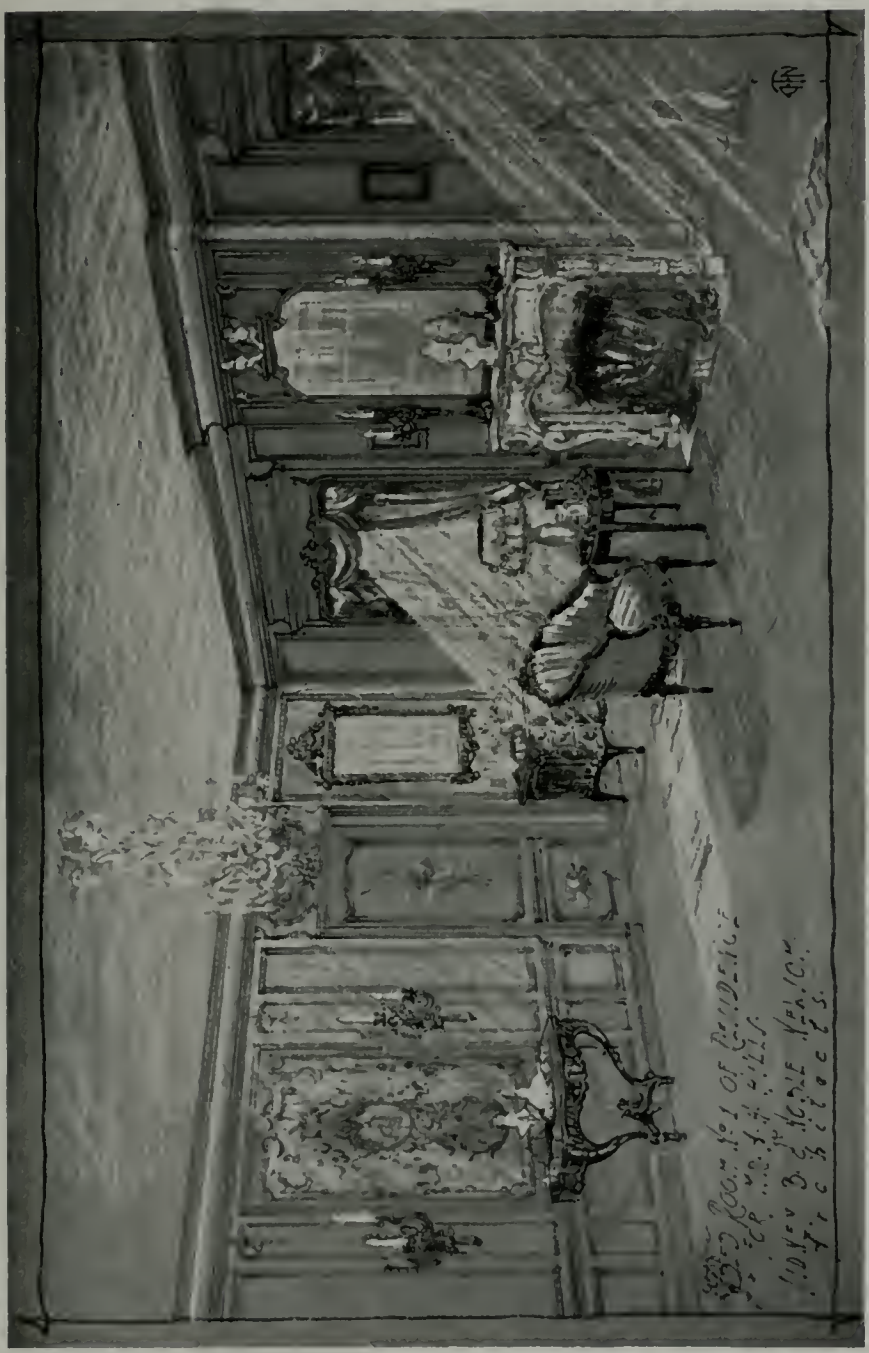
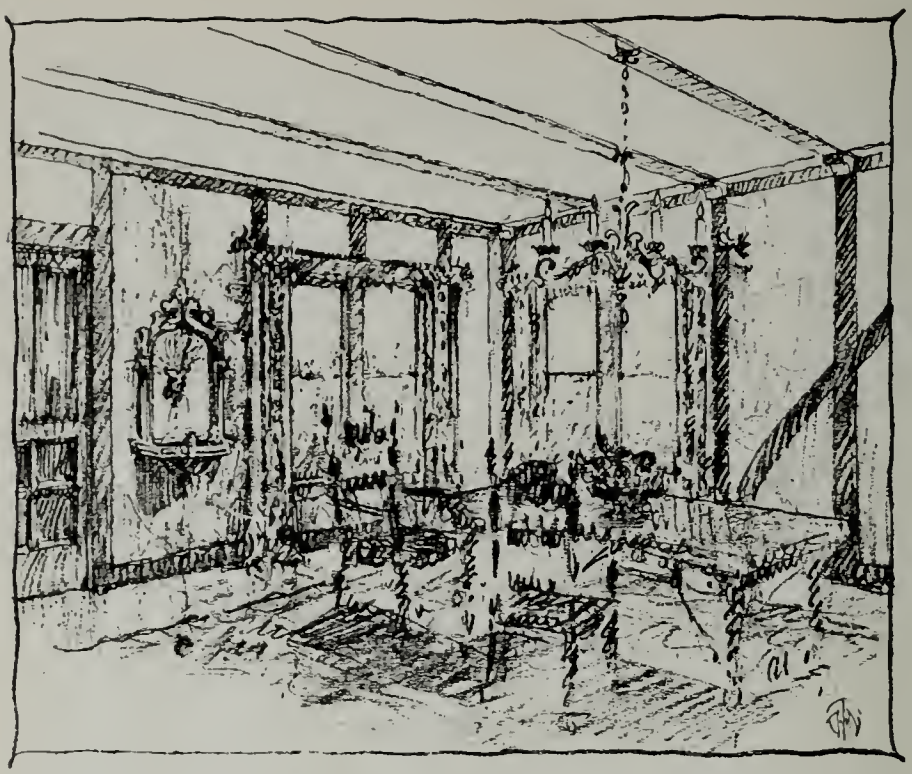


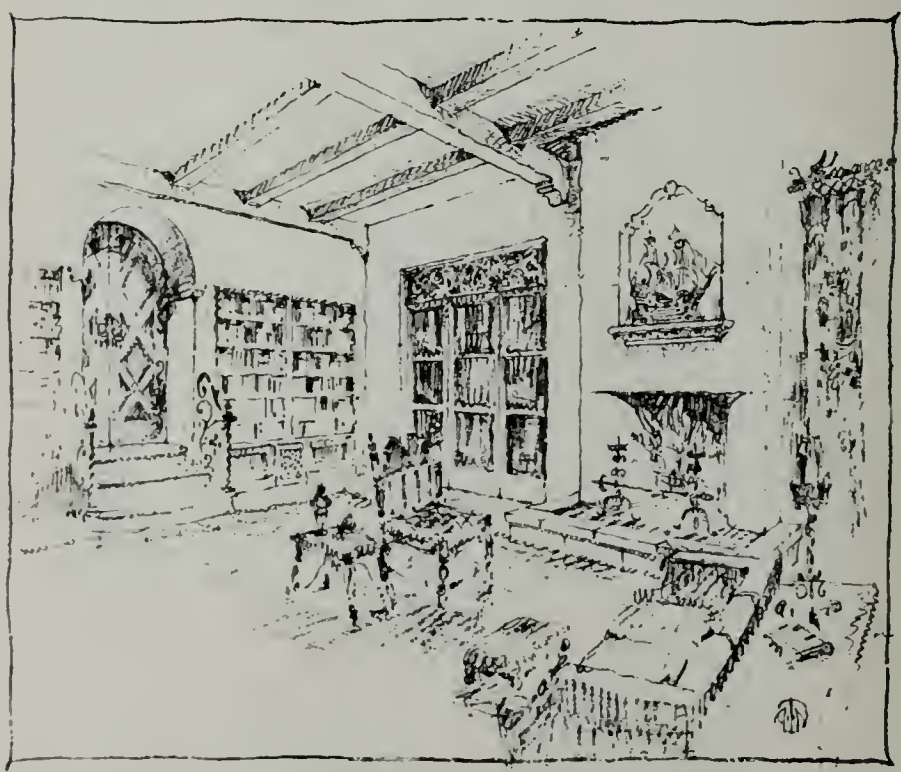
FURNITURE IN HOME OF W. V. B. CAMPBELL, PEBBLE BEACH



HOUSE FOR A. H. HILLS, PIEDMONT, CALIFORNIA
SIDNEY B., NOBLE AND ARCHIE T. NEWSOM, ARCHITECTS



DINING ROOM, MARCUS BROWER RESIDENCE, BERKELEY



LIVING ROOM, MARCUS BROWER RESIDENCE, BERKELEY

The essential function of the architect is to clothe with beauty, grace of form and expression of purpose any building with which he is entrusted. Any competent builder can erect a building strong enough for its purpose, adapted to its use, and reasonable in its cost, but he is something more than a builder if he can give to that building a grace of form, an expression of purpose and character and attractiveness in its detail. The modern architect must of necessity avail himself of all the products of the inventive masters of the age—he must design buildings suitable for modern needs, but if he wishes to be regarded as something more than a builder, or as the superintendent and co-ordinator of an aggregation of engineers, mechanics and builders, he must be able to clothe his building with genuine beauty, grace and expression. Mr. Fitzpatrick, in the following rather severe arraignment of the profession, unmasks the mistakes of some of the erring ones and offers suggestions for better things.—EDITOR.

AMERICAN ARCHITECTVRE
IS THERE TOO MVCH SAMENESS?

BY F.W FITZPATRICK, CONSULTING ARCHITECT.
CHICAGO, ILL.

IN THE New York Times of December 19th (Sunday edition) Professor Ralph Adams Cram is quoted at considerable length in a panegyric to the beauty and progress of architecture in this country.

Professor Cram is himself a distinguished practicing architect, one of the very topnotchers, in fact. In his knowledge of ecclesiastical lore and his ability to design fine Gothic churches no one surpasses him and few equal him. He is a skilled, enthusiastic and forceful master of architecture and one who swings an artistic pen as well as pencil.

But I am afraid the good man, in all friendliness and sincerity, has nevertheless done his confreres an unkindness. The practicing architects all over the country read that article, patted themselves on the head, swelled up and proclaimed that it meant US. Sure, we were the best ever, could whip any country and were strictly IT architecturally. That article is apt to do a very great injury to the profession, the architects and the country generally. The profession is basically somewhat flaccid anyway, and Mr. Cram's eulogy is prone to set them in their complacency, their perfect satisfaction with themselves. Instead of patting them on the back they need goading, a spur, something to keep them up and doing.

Remember, this is a big country. In Mr. Cram's class (I mean his peers, not his students) there are perhaps twenty very capable, artistic, practical, all-around real architects. But throughout the land there are seven thousand odd others, fair, pretty good, medium and appallingly bad, who also are practicing architecture, do some of our very big and most important work. Yes, and even the big ones are not always without sin, for they, too, sometimes leave a trail of bungled buildings. We misspend hundreds of millions every year in poorly planned, unprofitable and ugly architecture.

To begin with, Mr. Cram is absolutely right in saying that we have all the foreign architecture eclipsed. The modern stuff done in Eng-

land, France, Germany, Italy and the rest of them, is below par, appallingly awful new art, bad dreams, war scares, nightmares, a sad decadence from the high estate of the European architecture of the past. If their literature and other arts fall as low as their architecture, then indeed is it time for European civilization to give way to the yellow or any other supremacy that may come along. Our poorest designer can outdesign the best of them, and their construction, plan and handling of the building are on a par with the design. But that is not saying much for ourselves.

Let us do a little "examining of conscience."

I have just received from a friend a splendid annual edition of a big western paper. Sumptuously gotten up and its hundreds of pages gorgeously illustrated, yet it gives me the glooms architectural! Withal, that city is one of the handsomest cities in the land and its architecture not one whit less attractive than that of any other big city. But there in those dozens of pages are photo groups of thirty or more commercial buildings in a bunch, about as big a collection of architectural representations as one ever sees at a time. Now, shake all those buildings up together, then, blindfolded, pick one from the bunch and you have the prototype, the average of the lot. Dismal, awful monotony! Yet, I repeat, that city sins no worse in that direction than do the rest of cities. The utter sameness, the absolute absence of the slightest variation, the awful paucity of architectural expression hits one with a club. A shaft with few or many stories or openings, a cornice or lid on top, so many bands constituting a base, and there you are.

I am not clamoring for the weird absinthe and cigarette dreams of originality that some of our French friends and Frank Lloyd Wright and his cohorts perpetrate in the name of architecture, but it does seem to me that we could get up less of this monotonous stuff and add a little more originality.

And if we sin in the artistic part of the program, how about the planning, the practical part; how about the usefulness, the economy, the availability and fitness of that building?

The average architect believes that his most important function is fulfilled when once he has "designed"' a beautiful, much becolumned and highly ornamental exterior for a building (just like or nearly like 4376 other buildings). He stands ready to sacrifice almost any advantage of plan or economy of construction to that "front." Indeed, his whole education and training has been "frontward," so one can't wonder much at that most natural and highly cultivated bent.

But it has done him harm and may yet be the Waterloo of the profession. Men who pay for building have grown to want more than monuments to their architects' artistic and decorative ability as copyists. They want profit, they want every penny spent where it will do the most good, they want service, in other words; and are realizing that they are not getting it in the highest degree from their architects.

I have been preaching the gospel of greater service, more thoroughness on the part of the architects, exhorting them to set aside their vaunted disdain of the merely practical details of planning and building, but the architects have pooh-poohed it all—thought I was just scolding or sermonizing. They rather fatuously believed they were giving all that could be expected of them in the regular, accustomed, usual manner sanctioned by long precedent, for were they not doing just as had been done by architects for years and years?

But that is exactly what the people don't want. Things have progressed, more is expected of everyone, he who lags behind is liable to be lost, forgotten and new ways devised of doing what he may have so well done years ago. That is what is happening in architecture, the writing I have seen upon the wall, the construction of building by construction companies direct, with architects as mere subordinates, not as directors and representatives of the owners, almighty autocrats upon a building.

Most of our architectural journals are too prone to look at and discuss only the one side, the architects' side, of any controversy that may arise. That is a mistaken theory of loyalty. Better far to weigh both sides, see what there is to them and if the other fellow has a real grievance then honestly advise and endeavor to have the architects correct that error so that particular complaint need not again be made against them.

The consensus of opinion among the owners of buildings is that they do not get the best that can be procured for the money invested, that architects are too complacently satisfied with the effort to produce a pretty "front" and ignore or do not know much about the real economy of planning and construction and specialized requirements.

Even in that "front" architecture we are not so much. Abject copyists, tied hand and foot to some antique style or period. Oh, yes, the "period" is the thing. Louis quinze, Georgian, Victorian, Colonial, we prattle learnedly about them all, but what the dickens are they doing as modern solutions of our today problems in the U. S. A.?

Mr. Cram designing mediaeval cathedrals is all right. Churches are mediaeval remains, their tenets and beliefs and ceremonies hark of the past and we boast of their unchangeableness; 'tis well, then, to clothe those places of worship in the garments of their time. I have no fault to find with it all. But what the dickens do we mean by making a Gothic cathedral do duty as the modern housing for a great bank or industrial building? Why must our factories, yes, our railway stations, gas stations, dog kennels and garages be becolumned in stately classic garb?

Funny how the American architects have always bucked anything really progressive in that line. For that matter, they have bucked progress generally. They fought fire-prevention at first and it took us twenty years to get the stepped-backed building into New York past their obstructions. The joke of it is that now it is law they swear it is an aid to real artistry, beautiful lines, as well as of great practical value. And another joke is that they are falling over each other in giving us the new idea in treating those set-back buildings in the real American way (!) vertical lines, plain surfaces, all as first evolved by Saarinen of Finland in his competitive design for the Chicago Tribune. And he had never even seen a skyscraper, and yet we are all following his lead!

Let us try and clothe our American enterprises in something like American garb.

True, Mr. Cram says we have some good looking homes, but there again most of us think that the WE means the architects of the East chiefly, then those of the Middle West, but as a matter of fact, the handsomest, most appropriate homes are in California. They fit the climate and the surroundings; in the East and Middle West we rarely think of either.

It is simply up to us as to whether we actually do progress and give more and better service, more really artistic and intensely practical service or perish as an independent profession. It is in our hands but not for long.

In France just now they have gone farther than a mere warning. There is a faction in the profession that has seen the writing upon the wall and is actually at work trying to modernize the profession; it is a revolution if you wish, against the reactionary majority that worships the ancient and, in modern eyes, rather grotesquely archaic way of practicing. The business men are with this younger faction and the profession as it stands is going to have a hard time hanging onto its old coat.

Here we haven't gotten so far but we are on the way. There is still time though to wake up. And it is such men as Mr. Cram who can break through the conventions and cobwebs and lead his cohorts out of the wilderness into the practice of real architecture dedicated to better building and the greater glory and welfare of the U. S. A.

GOOD EXCVSES, THIS WRITER SAYS. FOR OVR INSIPID SAMENESS

By Harry F Cunningham AIA.

in American Architect

A DISTINGUISHED contributor to a recent number of a well-known architectural magazine has remarked the absence of what he calls "regional types" of American architecture. He has observed that each and every American city, town and village looks exactly like each and every other American city, town and village. Theoretically there is, of course, no real reason for this, although it is a very patent fact, to be sure. The life of the Vermont Yankee is nothing if not very different from that of the Georgia "Cracker." The environments (natural and artificial) of these two hundred per cent types are very different. Nevertheless their widely separated "homes" will be pretty sure to be very similar in outward appearance at any rate, especially if they have been built during the past fifteen or twenty years. The Citizens' Savings Bank in Sioux City is almost certain to render its "service" along lines totally different from those followed by the Millionaires' Trust Company of Miami. But one will seek the "service" through Classic portals in Miami, that are almost identical in every way (except perhaps in size) with those through which the "service" oozes in Sioux City.

Actually, there are very many excuses for this insipid sameness that has made America so easy to "see" without leaving home. And there is nothing very much that one can do about it, is there? Dr. Coolidge's home folks in the Vermont village see exactly the same movies that Reverend Aimee MacPherson's "parishioners" gloat over in Los Angeles. These movies have much to do with public taste (or the lack of it). The man and his wife in Seattle devour exactly the same illustrated magazines as do the man and his wife in Key West. The "news" items that form the literature of the Rotarian in Chicago, are the very same as those that inspire the Kiwanian in Galveston. The family from Peoria sees the same identical things on its periodic flivver pilgrimages

as does its sister family from Cheyenne (assuming, of course, that any of them really see anything).

The marvelous movies—the printed picture—the faithful flivver. America's inspiration! Regional types? Bosh!

The man and his wife who hope to build a home do not select an architect as they would a physician to treat a particular ailment, and then go to him and say frankly that their manner of life is thus and so, their taste this and that, their means so much or so little—and then ask for a home to fit these considerations. Oh, no!—they go to some friend (fellow Lion, probably) who "draws plans," and show him a clipping of a plan from **House and Garage**, that is just what they want. They exhibit a clipping or two from **City Life** showing the type of exterior that is being built with such success on Long Island—they must have that. They produce a column from the building supplement of the Sunday paper, setting forth the "latest thing" in color schemes. And they tell him to make the "blueprints." The friend who "draws plans" does just exactly as they tell him, from San Diego to Bar Harbor. Can we blame him? He is busy drawing many plans, perhaps. Anyhow, it is the easiest way. So there you are. Every book store in the land sells the same inexpensive books on "Modest Homes for Modest Means"—every newstand carries the same illustrated magazines—building supplements are syndicated all over the country. The lady in Hanover can—and does—clip the same pictures from the same pages as her sister in Denver. Ours is a "syndicated civilization"—why bother with "regional types"?

Of course, this matter of regional types affords one of the most charming features of European travel. The character of the buildings changes as that of the country, the people, the natural surroundings, the topography, the geology, the means of transport, and so on, changes. But what of that? It must be a useless refinement. Europe is known among all the hundred per centers to be a "back number." If she were not, would she owe us so much money, and would she have such a time paying it back promptly? And speaking of Europe, why not show the friend who "draws plans" a picture postcard or two, picked up on a Triangle Tour of thirteen countries in twenty days last July, and have him copy them? Why not indeed? He may have just the books that show all the details that are so hazy in the postcards.

The fact that Mr. and Mrs. Everyman have not the slightest trace of Italian blood in their veins should not prevent their having an "Italian villa" if they want it, and can afford it, and have a friend who can "draw" it. Americans generally get what they want when they want it, don't they? And even if Mr. and Mrs. Everyman really wanted to be "traditionally" honest and build something that reflected their "background," what would it be like after all? Mr. E's father was Scottish and his mother French—Mrs. E's father was Holland Dutch and her mother English. The translation of this "background" into "traditional" architecture would resemble nothing so much as an Hungarian goulash. The fact that they might be normal Americans of a characteristic region, with certain natural (and of course artificial) surroundings that are indigenous to that region, or that a simple, direct, logical expression of these conditions is possible or worth while, would never enter the heads of Mr. and Mrs. Everyman, nor that of their friend who "draws plans." All these heads are otherwise occupied, and everything they see, hear or read invites the present occupants of their heads to stay right there—

almost forces thought to stay out of a place so foreign to it. It would never occur to any of them—it almost never could—to try to discover just what "American" is or might be. They have never noticed—almost never could notice—any difference between their own environment and that of their cousins on the other side of this tremendous country. They don't want to be different, anyway — they want to keep up with the Jones'. That's hundred-per-centism, that is. It seems almost hopeless, for our generation at any rate, to expect any change from the present habit. Too many printed pages with pictures, too much hurry to get things done quickly, too much willingness (desire even) to be just like everybody else. Too much fear of being "different"—the chap who is different is always a "nut." Who wants to be a nut—a ninety-seven-per-center? Rotary is against it, Congress is opposed to it, Dr. Coolidge doesn't believe in it. Too much talking and shouting—too little thinking and dreaming. We are a practical people (whatever that is). Regional types? Balderash!

Now in the matter of big buildings for big business one would suppose offhand that the American business man, with his original and forceful methods that have secured for the little old U. S. A. all the business and all the money in the world, might welcome something new and novel and distinctively appropriate to him, his business, his "home town." Mais non! He is as bad as—if not worse than—his wife who wants an "Italian Villa" just like Mr. and Mrs. Babbitt Jones! Brown's Big Block in Hickville is sure to be exactly like (except perhaps in size) Goldstein's Mammoth Mart on Fifth Avenue, New York. The "boys" want it that way. They will get it. Don't the "boys" always get just what they want? The banker wants the same collection of odd bits of Classic temples to make up his bank that always have made up big banks, since business began to stand on a "firm footing." He will get it. Don't bankers always get just what they want? What difference should there be between the court house in Salt Lake City and the court house in Binghamton? They are both court houses, and court houses have been things with Classic columns and tin "domes" for years now. Why should these things be otherwise? Does anybody know? Does anybody care a rap? They most surely, certainly and obviously do not! What's all this business about "regional types" anyway? Tommyrot!

Suppose that some of our "architecture" of this day and generation might last for several hundreds of years (which it most certainly will not). What a curious estimate of our present "civilization" an archeologist of the future would make if he might study some of the current steals and makeshifts. "These people," he would say, "were either very lazy or in an awful hurry. They seem to have remembered some things and copied them—approximately. They seem sometimes to have copied —approximately—things that other people remembered. They must have lived standardized lives according to some standardized, mediocre system. There is an uninteresting sameness in all that they did, over a tremendous area. They seem to have never thought—never analyzed. They must have been machine-mad."

Is this dear America of ours just rushing along at break-neck speed and never stopping to think? Heaven preserve us—is that what she is doing?

GATE ENTRANCE, APARTMENT COURT, SEASIDE, OREGON

UNIQUE APARTMENT COURT

SEASIDE, OREGON

By

ROSCOE A. JOHNSON

"THE TIDES" is an apartment court located directly on the shore line of a sheltered bay at Seaside, Oregon. Nearby are three excellent golf courses, one being but three blocks distant. Clams are plentiful directly in front of the apartments; sea fishing can be had from nearby fishing rocks, and bathing, horseback riding and the usual beach amusements are close at hand.

The concrete beach Promenade of Seaside leads directly to the main gateway of "The Tides." This gateway is composed of two rock piers surmounted with cupola-like enclosures, and protecting clusters of orange colored beacon lights which are under time clock control. Wrought iron gates complete the gateway.

A concrete sea wall extends across the front of the property and a rock wall surrounds the grounds. It is interesting to note that these rock walls were laid up in clay mud and to a template which was moved along as the work progressed. Due to the shape of the wall and manner of laying the rocks, the mud held the rocks together during the worst rain storms without the slightest damage. Geraniums line the top of the walls and ferns grow readily in the joints between the rocks.

The walks are made of large flat boulders with large cement joints. The grounds are beautified with lawns and many kinds of shrubbery.

The original site was a mass of beach boulders and it was necessary to haul in filling to the depth of sixteen inches in order that planting could be done. First a four-inch layer of sawdust was laid on the rocks

APARTMENT COURT, SEASIDE, OREGON
ROSCOE A. JOHNSON, DESIGNER

to hold the moisture, then a layer of sand was brought in and on top of this was spread a surface of rich soil.

There are twelve apartments in the court, each completely furnished and containing a living room, kitchen, two bedrooms and a bath.

The living room furniture is finished in orange and black, with cretonne drapes to match. There is a fireplace with hot water coils to augment the coils in the kitchen stove. The electrical fixtures are suggestive of ship's lanterns. The kitchen is supplied with electric range and has a dining nook. The bathroom is heated by the hot water tank set into the wall and covered by a screen door.

Independent garages and a laundry room form the east side of the court. The caretaker's apartment is above the garages.

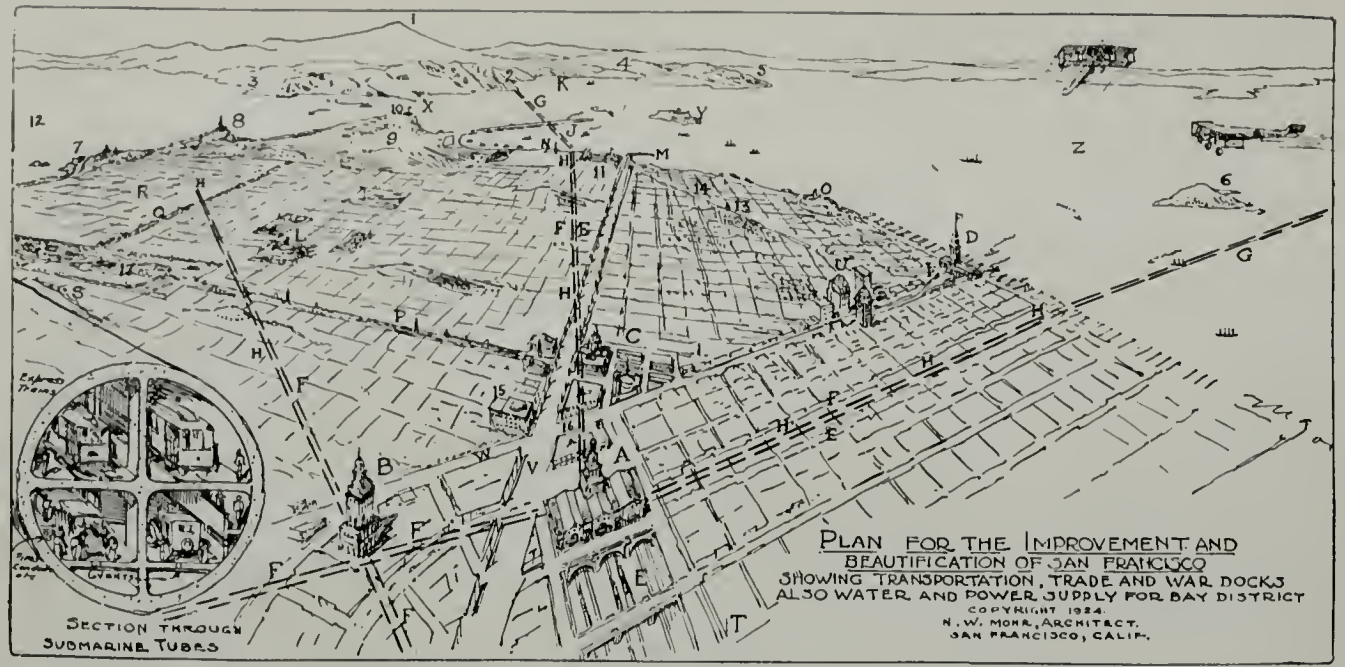
It was intended to give the exterior an appearance that would harmonize with the sea. The shutters have cut-outs in the forms of gulls, clams, fish, boats, sea shells and star fish.

The shingled surfaces have been toned by the elements to a lilac tinted gray, affording a good contrast for the orange colored shutters. The trim is white and the doors and windows are painted a light green.

The whole effect is pleasing, the design is a trifle exotic in effect but keys in with the surroundings and the atmosphere of the seashore.

The owner of the property is Mayor George L. Baker of Portland, Oregon.

PEN-AND-INK SKETCHES BY BLAINE


PLAN FOR THE IMPROVEMENT AND
BEAUTIFICATION OF SAN FRANCISCO
SHOWING TRANSPORTATION, TRADE AND WAR DOCKS
ALSO WATER AND POWER SUPPLY FOR BAY DISTRICT
COPYRIGHT 1924
N. W. MONA, ARCHITECT.
SAN FRANCISCO, CALIF.
SECTION THROUGH
SUBMARINE TUBES

A—Natural traffic center, 12th and Mission Sts.
B—Auxiliary local traffic center station, Valencia and Market Sts.
C—Civic center.
D—Ferry building.
E—Express train subways.
F—Local subways.
G—Submarine tubes to Marin, Alameda and other counties.
H—Subway terminals and quarter mile surface stations.
I—Elevated loop for surface traffic to second floor, Ferry building.
J—Treadwell docks.
K—Ideal war docks and Navy yard in Richardson's bay.
L—Lone Mountain.
M—Municipal Aquatic Park.
N—Column of Progress.
O—Telegraph Hill.
P—Pan handle extension to Civic Center.
Q—Presidio Pan Handle.
R—Richmond district.
S—Sunset district.
T—Mission district.
U—Third and Market Sts.
V—Van Ness extension to Howard and Thirteenth Sts.
W—West Market street traffic.
X—Golden Gate.
Y—Alcatraz Island.
Z—San Francisco Bay.
1—Mount Tamalpais, key to fortification system. 2—Sausalito, Marin County. 3—Point Bonita Light House. 4—Belvedere. 5—Angel Island. 6—Goat Island, Naval training station. 7—Cliff house and seal rocks. 8—Lincoln Park and Veterans' Memorial. 9—Presidio Military Reservation. 10—Fort Winfield Scott. 11—Fort Mason. 12—Pacific Ocean, joining countries of greatest natural wealth. 13—Nob Hill, historical location of aristocracy. 14—Columbus Avenue and Latin Quarter. 15—Masonic temple and Young Men's Institute. 16—Retail stores and office buildings facing Market Street to preserve continuity of pedestrian traffic. 17—Golden Gate Park.

SAN FRANCISCO
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The CITY OF SAINT FRANCIS IDEALIZED

By

NORMAND W MOHR

ARCHITECT

THE idealization of material transportation and thought communication will constitute two great factors in the emancipation of our cities, architecturally.

Rapid transportation enables us to increase area with convenience, thus relieving our vexing traffic congestion. Ease of communication in our requirements diminishes necessity of corporal transportation.

Thus science and art travel hand in hand. The inventor clears the field for the idealist and the artist.

The ideal city of the future will be greater in area and population but less in density.

Our present struggle with traffic problems, necessarily dealing with mechanical progress, centers about the auto, railroad, bridge and subway. Until our inventors improve on these means of transportation, experience has demonstrated, in the life of great cities, that the subway is the logical solution for these present conditions.

The San Francisco Bay district, particularly, is an example in case, chiefly, as the community points to be connected are separated by so wide a marine distance. San Francisco Bay, not only for the above reason, but military and depth, structural difficulties, precludes a bridge.

Subways under ground or water have developed in economy and safety tremendously during the last decade. By the latest system of pneumatic, inflatable and deflatable forms, dock pouring, launching, floating to position and submerging in place, submarine tubes may be built at one-third the cost of suspension bridges. The matter of ventilation and illumination has also been successfully solved.

Subways under ground are now placed at such a depth that surface loads and traffic are disregarded. The lines of travel in direct lines to points of access.

Therefore a system of subways will be the eventual solution of transportation for the San Francisco Bay district, considering our present mechanical inventions.

However, an ideal system as mentioned at the outset of this article and which will probably be perfected within the next decade will naturally, not only render all the subways obsolete, but of far greater consequence will idealize and beautify our cities in innumerable ways.

Concentration and congestion of real estate improvements will almost reverse. Remote points being equally accessible to central ones will be of equal ground value, provided the world of finance and commerce does not also come within the progressive labors of our inventors and discoverers.

The outstanding change in architectural style will be a direct result of the increasing elbow room. No more cramped in ground plots, light wells or skyscrapers. Growth will be horizontal rather than vertical. Curves in sky line in mass and detail, facilitated by improvement in methods of construction (notably the pneumatic form on which I will deal later). By this method buildings of circular form will be more economical to construct than our present rectangular system. Also being more closely natural in form, more beautiful.

The various activities of humanity in the ideal community will be almost opposite to their present apparent importance. The material things of life will be merely the means of expressing our true spiritual life. Then and only when the Master Architect is restored to the supreme place in the universal heart and mind, will our cities be ideally perfect.

SUPERVISION of REINFORCED CONCRETE CONSTRUCTION

By Elwyn E. Seelye, C.E.

in American Architect

IN reinforced concrete construction the structural elements are actually manufactured in the field and in this way it differs from other types of construction, such as structural steel. It, therefore, needs more careful supervision. The reader is invited to take an imaginary trip to a reinforced concrete job in progress of construction and to inspect the work in its different stages, and thus form a clear idea of the "what" and the "why."

Having arrived at the job, the builder's superintendent is first requested to show us his plans and specifications, with the object of finding out if he is working from plans of the latest issue and from plans that are clear and complete.

An inspection of material is then in order. Is the cement stored in a waterproof building? Has it been tested by a laboratory? These matters are important because cement is quickly damaged if it is rained on, and we should assure ourselves that the brand of cement being used conforms to standard laboratory tests.

Attention is next given to the sand pile to determine whether the sand is clean and sharp and of moderate fineness—that it is a sand neither very fine nor very coarse. A milk bottle, or other glass container, is partly filled with sand and water; shaken up; and then allowed to stand until the water above the sand has become clear. A layer of sediment shows on top of the sand, which by scale should not be over 7 per cent of the volume of the sand. When the milk bottle test is made, four parts of sand are placed in six parts of a 3 per cent solution of sodium hydroxide, obtained from a drug store. If, after twenty-four hours, the solution standing above the sand has a darker color than light amber, the sand contains a dangerous amount of organic matter, such as roots or loam and should be rejected.

The sand is also examined to see that the grains are not coated, that the grains are not made up of shale, that they do not contain much mica or pyrites, and that they do not contain crusher dust. If the sand passes these field tests, a one-gallon sample is sent to a testing laboratory, with the request that briquettes be made up of this sand and of Ottawa sand and that their tensile strengths be compared. In the meantime the contractor is given permission to proceed with the construction. It is observed, however, that the sand is lying upon a soft loam which is liable to be scooped up with the shovels, and the superintendent is directed to have the sand piled on planks.

The stone or gravel for density and strength must be clean, hard and well graded between its upper and lower limits. If these conditions are met, either gravel or broken stone is accepted. The maximum size for ordinary small joist, or places where there is a large amount of reinforcement, should pass through a ¾ inch ring. For ordinary beam and girder or flat slab construction the maximum size should pass through a 1 inch ring, and for foundations and mass concrete, there need be no limit to the maximum size. Too much stress, however, is not laid on this question of maximum size because the larger the limiting size, the stronger the concrete, provided such concrete can be placed without voids.

The reinforcing steel has been arranged in piles by sizes and lengths. The steel is inspected to see that it is free from rust scale or oil and also free from splits, and whether it is bendable without checking.

The forms have been built and are the next item on the inspection list. The forms must be true to alignment, strong and well braced. Before the concrete is placed, the forms must be thoroughly cleaned. For this purpose an air jet is advisable and the contractor should have left small cleanout openings at the foot of his columns, as this is a difficult place to clean. The surfaces of the forms which come in contact with the concrete must be oiled. The first floor uprights supporting the forms have been placed on mud sills and wedges and the mud sills have been carefully bedded in the earth. This is important because the earth may tend to soften when the concrete is poured and the sills settle while the concrete is setting, causing serious checking of the concrete beams. The contractor is to keep his hoist tower clear of the forms and not braced to them in any way, so that the vibration of the bucket elevator will not shake the forms while the concrete is setting.

The sizes of the beam boxes are carefully checked and the columns plumbed. On examining the footing of the columns by means of the cleanout door at the foot, it is observed that some of the concrete footing contains on its surface considerable mud, and laitance, or scum that has risen to the top. Directions are given to have this cleaned off. As the forms are checked the sizes and position of the reinforcing steel are also checked. The steel must be rigidly secured in place so that it will not be displaced by the tamping of the concrete.

The reinforcing steel in the bottom of the slabs and beams has been specified to rest upon metal spacers or concrete blocks. Metal spacers are not permitted where the surface is exposed to the outdoor atmosphere. The structural designer has planned that the steel will be very accurately placed in a vertical direction. This not only applies to the steel in the bottom of the slabs and beams, but also to horizontal steel in the top of the slabs and beams. The foreman of the steel gang is stubborn on the point of getting the top steel up as high as it should be. It is also found that the foreman in his last pouring operation failed to provide for a proper width of tee-flange. He has also failed to place some of the retaining wall vertical steel in the proper surface. The concrete forms for the retaining wall are held together by wire ties.

This concrete is exposed to the weather and these ties will rust and expand, causing the concrete to check. The foreman is instructed to remove these ties and use removable bolts to hold the forms.

Attention is now turned to the mixer. The ratio between the amount of water and the amount of cement is the main gauge of the strength and permanency of the resulting concrete. In lieu of a scientific analysis of the aggregate, the contractor is informed that the ratio should be one part of cement to nine-tenths of a part of water by volume. He is re-

quired to furnish an accurate water control device and to set it at such a point that the above ratio will be obtained. A standard batch mixer is being used and the contractor is told that the Joint Committee on Reinforced Concrete recommends a peripheral speed of the drum of two hundred feet per minute and that the batch must be mixed for at least one minute. The use of wheelbarrows is forbidden for measuring sand or stone and gated hoppers must be built so that the required proportions of stone and sand can be measured with reasonable mechanical accuracy.

Much importance is attached to the amount of cement introduced in each batch and if the contractor is using two bags per batch, he should put both in at one time rather than put them in alternately with the sand charge, as in that case the second bag may be forgotten. If the work is important, an inspector is delegated to watch the mixer at all times.

Returning to the second story, where concrete is now being poured, it is observed that a dry mix is being used and the foreman is cautioned to see that concrete in the forms is carefully spaded and that men are placed with hooks to shake the reinforcement and consolidate the concrete around the bars.

The columns supporting this floor must be poured and allowed to set for several hours before the floor slab is placed, or else a shrinkage crack will occur between the column and the beam resting upon it. To avoid the formation of a cleavage void the contractor should not be allowed to pour the concrete in the beam boxes along slanting surfaces. Insist upon temporary bulkheads for limiting the day's work being plumb and at right angles to the beam, and that these bulkheads are placed in general in areas of low shear—or at the middle-third of the spans of the beams and girders.

Paper cartons, obtained from a testing laboratory, are filled with fresh concrete removed from the floor that has just been poured. The manner in which these are filled is very important, as they are to form an index of the strength of the concrete, and a slight difference in tamping will make a great difference in the result. These cartons are stored in damp sand until a day or two before they are shipped to a laboratory for testing. The contractor has asked permission to remove the forms from an area previously poured. The concrete is struck with a carpenter's hammer to determine whether or not it rings like a stone. Inquiry is also made as to the time that the concrete has been set and the contractor is advised that forms are not to be removed under seven days in warm weather, and two weeks in cold weather. These are minimum elapsed periods and are not a safe criterion for all conditions. If there is danger that the concrete has been frozen, a nail test is made by attempting to drive 10 d nails into the concrete. If a 10 d nail can be driven into the concrete without bending, it is an indication that the concrete contains frost and that it would be extremely dangerous to remove the shores. If, however, the concrete passes the above tests the contractor may remove his shores, but he should do so cautiously and replace the support with what are known as "re-shores." Re-shores consist generally of heavier uprights placed midway between the supports of beams and girders and wherever there is any likelihood of the concrete receiving its full stress. The purpose of these re-shores is to protect the concrete construction from overloads or shock while hardening is in process.

The contractor calls attention to an area of the floor which is known to have been subjected to frost but which now appears to be in good con-

dition, and asks our opinion as to what is to be done. A load test amounting to 1½ times the live load for which the floor was designed is suggested. This test consists of shoring the floor to be tested on uprights, and the placing of wedges at the bottom so that the uprights can be made snug, but not driving the wedges in so as to raise the floor. After this has been done the test load is placed upon the floor. A magnifying pointer is constructed, attached to the ceiling of the test slab and the wedges of the shores slacked off, but for safety the shores are held in place so that they are just free. The deflection is read on the pointer and the load removed. Note is made as to whether or not the test caused a permanent deflection. This is the important criterion, for if permanent deflection was caused it is probable that the construction is faulty.

Returning to the second floor, which has been in the process of being poured, instructions are given for finishing it. Exposed surfaces which include the outside spandrel beams and columns, must have their face forms removed on the day following their pouring. They are to be finished in accordance with the specifications which probably prohibit the use of a cement wash or plaster and require rubbing with carborundum. It is to be noted that it is particularly important for this work to be done while the concrete is still friable. One portion of the floor is to have a monolithic finish and, as it will require some time for the concrete to become firm enough for troweling, the finishers must plan their work accordingly, even if overtime is required. The finishers are cautioned not to use dry sand or cement for the purpose of expediting the troweling. A portion of the floor will not have monolithic finish and this area will be left rough but screeded to grade.

GENERAL RULES FOR INSPECTION OF REINFORCED CONCRETE WORK

1. Do not allow forms to be removed until concrete is thoroughly set and rings like a stone when struck with a hammer.
2. Do not mistake frozen concrete for concrete thoroughly set.
3. Do not permit re-shores under beams and girders to be removed for at least three stories below the next floor to be poured.
4. Do not permit the placing of a cinder "fill" on the roof until the roof concrete is hard.
5. Do not permit heavy sections of ceiling forms to be dropped on the floor below.
6. Do not allow concentrated loads of material on green concrete floors.
7. Do not accept structural work which exhibits considerable voids or places where cement and sand are lacking around the coarse aggregate.
8. Do watch the quality of the ingredients.
9. Do watch the mixing.
10. Do check up placing of steel and size of forms.
11. Do watch the strength of the forms.
12. Do avoid frozen concrete.
13. Do test doubtful construction or condemn it.

WHERE NATURE ADDS CHARM TO
NEGLECTED SPANISH DOORWAY

MODIFIED BUILDING CODE TO CHECK RAVAGES OF TERMITES

A MODIFIED building code to apply throughout the length of the Pacific Coast is being considered by the Bureau of Entomology of the Department of Agriculture of the United States to eliminate the millions of dollars worth of damage done yearly by white ants, or termites.

Eventually the Bureau contemplates modified standard codes applicable to other sections where the ravages of the insects are serious. Those sections are Eastern United States, Gulf States, Central West and Southwest.

The statement was made before a group of scientists at Philadelphia during Christmas week by Dr. Thomas E. Snyder, of the Bureau. The occasion was the annual convention of the American Association for the Advancement of Science.

He said there are forty-two kinds of the termites. They do $1,000,000 damage to buildings in Honolulu, Hawaii, yearly. As a result that city, he said, has recently adopted a building code containing fourteen points relating to termite control. Eighty per cent of the frame buildings in New Orleans and fifty per cent of the business buildings in Pasadena, California, are damaged—some dangerously, he said.

The remedy, he explained, is to be found in proper construction and the recommendations embrace insulation of all untreated woodwork from contact with the ground as a protection against subterranean termites and impregnation of interior woodwork and furniture with chemical preservatives against non-subterranean termites.

The aim of the Bureau, he said, is standard modified building codes for all regions where termite damage is serious.

Briefly the proposed code recommends:

No foundation timbers, floors, sills, clapboards, etc., of untreated wood should be laid on or in the earth, and untreated beams must not be laid in concrete without at least one-inch of concrete underneath and separating it from the earth. A special grade of hard mortar should be used in making cement for foundations or in cellar walls where they are in contact with the earth, since white ants are able to penetrate certain mortar after some years' service. For greater safety all brick work extending below the surface of the ground should be faced and capped with concrete at least one-inch thick. Metal white ant guards should be provided between the earth and treated foundation timbers, stone, brick or concrete foundations. White ants construct over impenetrable substances earth-like shelter tubes of small diameter through which they travel to reach untreated wood. In consequence, they can be kept out of the buildings by means of metal barriers.

By simply inserting a sheet of galvanized iron or "white ant shield" into the masonry and turning the projecting edges downward at an angle, communication of white ants with the earth, where they obtain moisture, can be cut off. In less pretentious frame buildings, metal caps are placed over the tops of construction stone piling or pillars, or wooden supports.

MEMORIAL TO HENRY BACON
Henry Hering, Sculptor

IN MEMORIAM

THE Pacific Coast, and California in particular, greatly admired the the work of the late Henry Bacon, for it was Bacon who designed the superb Court of Four Seasons at the P. P. I. E. Jules Guerin has sent his friend, Louis Mullgardt, a photograph of the Bacon Memorial and a small reproduction of it is shown on this page. The following is an abstract of Royal Cortissoz' memorial address:

"It is only as a spokesman for the comrades of Henry Bacon that I am here, to express, if I can, something of the love and honor in which we all hold his memory. He was my friend for close to forty years. We were young together in the office of that great architect, the late Charles F. McKim, his first guide and a lasting influence in his life. There I saw the beginnings of those gifts which were ultimately to make him famous. It seems natural to speak of him at once as an artist but I look back over the long years and think of the thing that first comes to my mind, the first thing that has always come to my mind about him. I think of his goodness. By that I mean all the things that make a man such as you can tie to, generosity, gentleness and strength, truth, loyalty, all the ingredients of enduring friendship. I remember what was in the air on that night in Washington when the gold medal was given to him on the steps of the Lincoln Memorial. It was the gladness of all his professional associates that this honor was being bestowed upon him. I have never known a formal, official occasion in which there was more heart.

"I like to think of him as I know that others saw him. We went once together to the dedication of a bridge he had built in New England, a memorial bridge. I remember noticing the attitude toward Bacon of the lady who had commissioned him to build it in tribute to her husband. It was not that of a client toward an architect who had done a job of work. It was expressive of gratitude for the genius that had enabled her to erect a worthy monument. I was with him on another occasion with

Senator Shelby M. Cullom, at Washington. It was beautiful to see how that splendid old Lincoln man regarded him. He was much Bacon's senior but he spoke to him with what looked to me like deference. I know how that distinguished lawyer, the late Stephen H. Olin, felt about him. It was with great respect as well as with affection.

"I speak of this justly in speaking of him as an artist. There is an idea that the private character of an artist has nothing to do with his work. There is something to be said for that hypothesis. But there is something also to be said for this—that the genius of an artist is not divided into watertight compartments. The work of art is the product of the whole man. The nobility of Bacon's character passed into his work. I could give you many proofs of this, in citing buildings and monuments that he erected. He was a prolific man. But his life and his art are summed up in one sublime masterpiece, the Lincoln Memorial at Washington. There, too, questions of character arise. Some people have wondered if a Greek temple was an appropriate thing to commemorate Lincoln. You may wonder with them if you think only of the rail splitter and the humorist. But if you think of the man who freed the slaves, if you think of the man who saved the Union, if you think of the man who uttered the Gettysburg speech, you know at once that Bacon was right. Lincoln had what the poet has called 'the large utterance of the early Gods,' and Bacon used it when he designed the Lincoln Memorial.

"It is a crucial point. There is a kind of modern classical architecture that is made out of a pedantic study of the monuments and the books. Bacon didn't make that kind. When in his young manhood he traveled in Greece he drank in an authentic inspiration. All his life thereafter he spoke the architectural language of the Greeks as his mother tongue. It was his predestined idiom and when he designed the Memorial he did so as a man having beauty of line and mass, simplicity and purity, the majesty of heroic and perfect proportions absolutely at his finger tips. And through all his labors upon that grandiose work of art there ran the golden thread of his spiritual integrity.

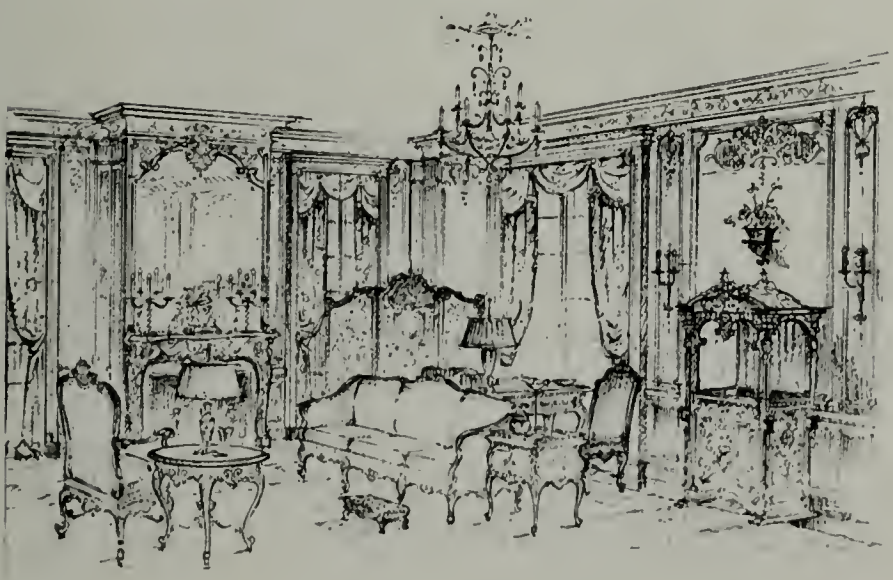
"I think of the poets when I think of Bacon, going to them for words worthy of the man. I think of John Keats, with his lofty ideal. In one of his letters he says, in substance: 'I could jump down Aetna for any public good but I hate a mawkish popularity. Nothing that anyone can say or do can touch my own inner ratification of what is right and fine.' That was Bacon's way. There was something sacred to him about his own inner conviction of what was right and fine. I remember how the bad work of some architect would distress him. He was kindly in speech, forbearing, magnanimous, and he would not denounce an erring colleague. But he would make you feel somehow that he hated bad work. I must go back to Keats. You will remember the lines from one of the finest of his sonnets—

" 'The moving waters at their priestlike task

" 'Of pure ablution, round earth's human shores.'

"Those waters mean to me the vast sea of beauty that Plato imagined, the great tide eternally sweeping through mankind to enrich and uplift it. Every true artist adds to that sea. He takes a cup from the spring of inspiration that sustains him and empties it into the sea. Bacon's crystal cup was filled and poured out over and over again so long as he lived. He rendered thereby a lasting service to his countrymen. Think of what he did for them in that wonderful building in Washington. Generations of Americans will pass before it and as they look will gain something that they will never lose, a stimulus to their sense of beauty.

"This memorial that we dedicate today is a testimony to the debt that we owe him. It means admiration and it means gratitude. But above all it means one thing which sends me again to John Keats. A friend sent him some roses and he wrote that they whispered to him of 'peace, and truth, and friendliness unequaled.' So it is with our memorial. It means nothing if it does not mean the flowers of affection laid upon his grave, whispering of 'peace, and truth, and friendliness unequaled.'"



SUGGESTION FOR APARTMENT HOUSE LIVING ROOM
Sidney B., Noble & Archie T. Newsom, Architects

PEN-AND-INK PERSPECTIVES AND PLANS

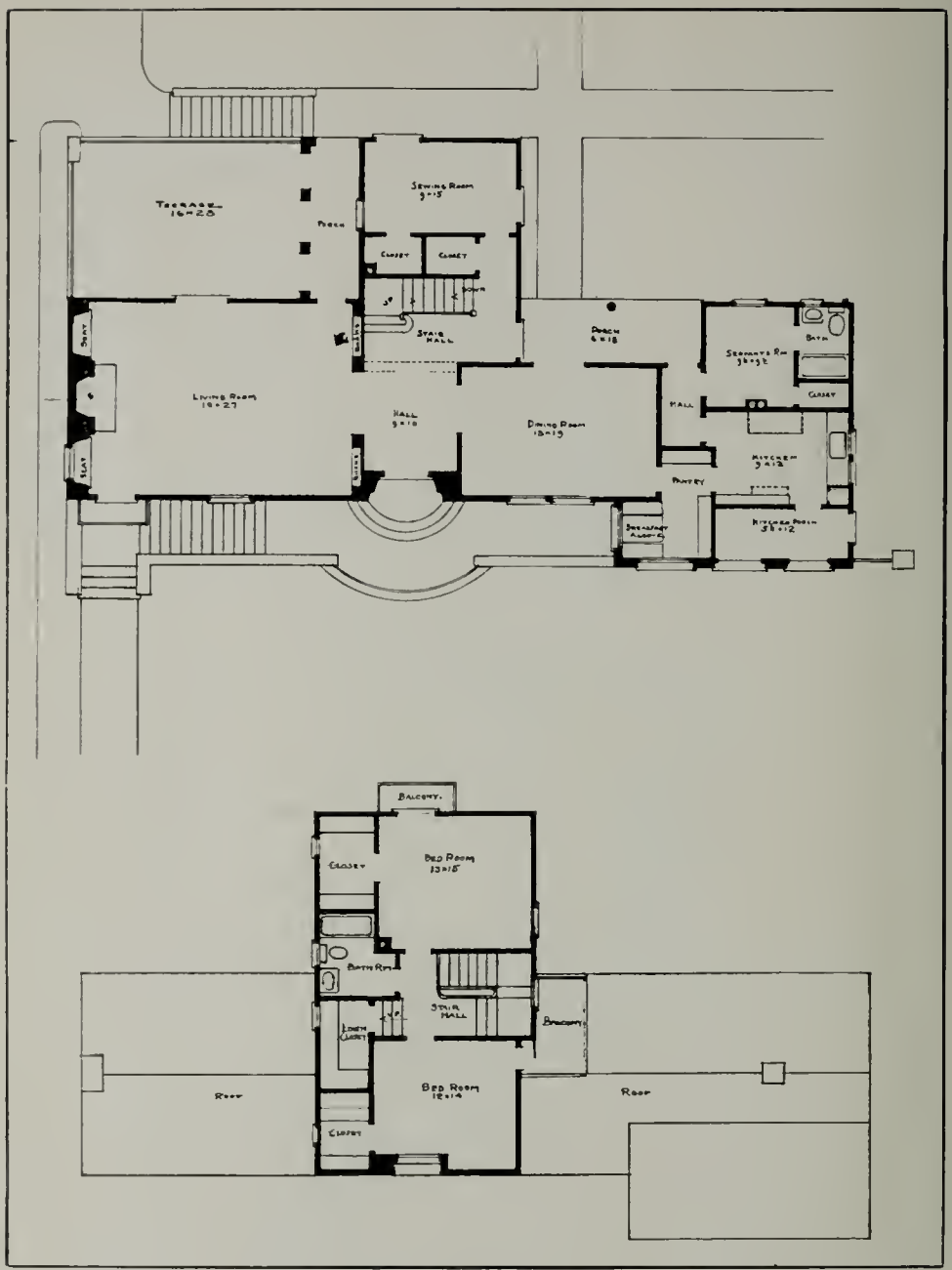
OF

CALIFORNIA HOMES

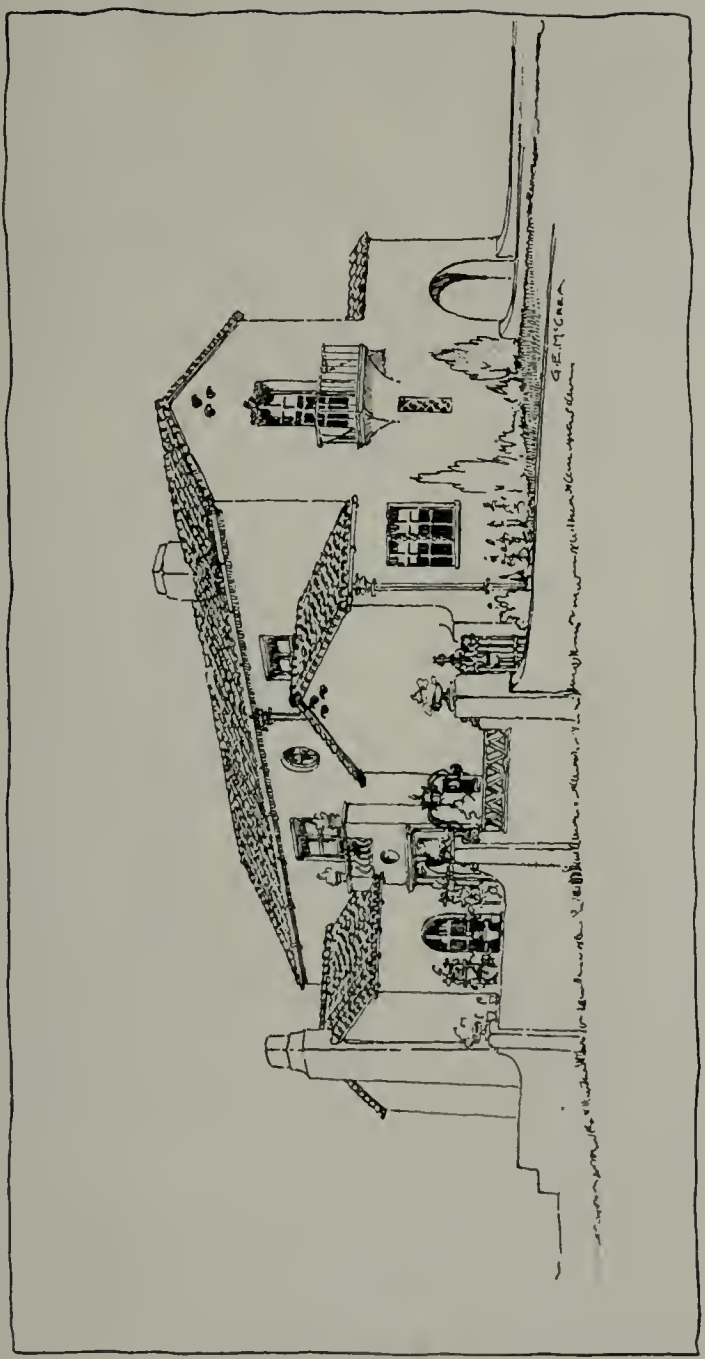
BY

GEO. E. McCREA
ARCHITECT
SAN FRANCISCO

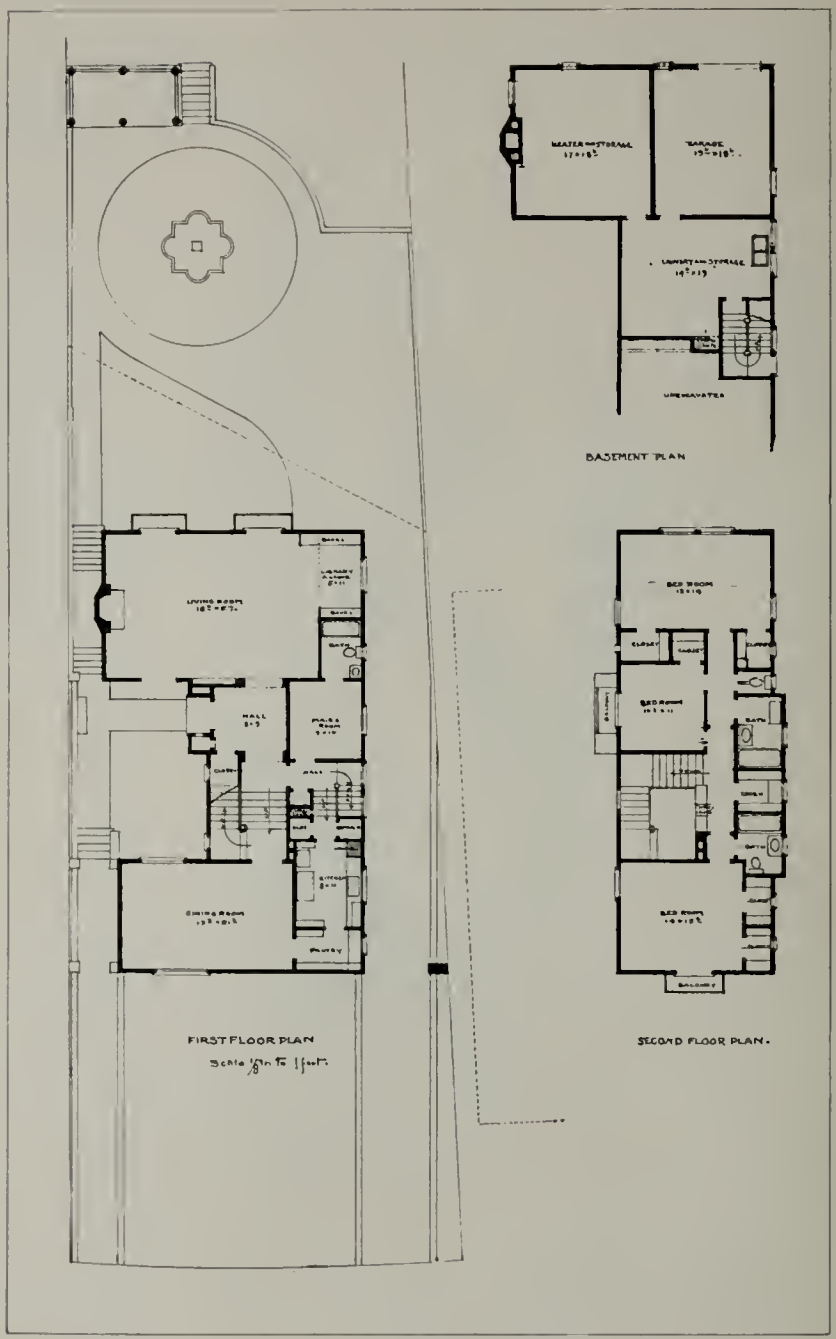
HOUSE FOR F. B. KEYSTON, BURLINGAME
GEORGE E. McCREA, ARCHITECT



PLANS, HOUSE FOR F. B. KEYSTON, BURLINGAME
GEORGE E. McCREA, ARCHITECT



HOUSE FOR WILLIAM F. BOOTH
GEORGE E. McCREA, ARCHITECT



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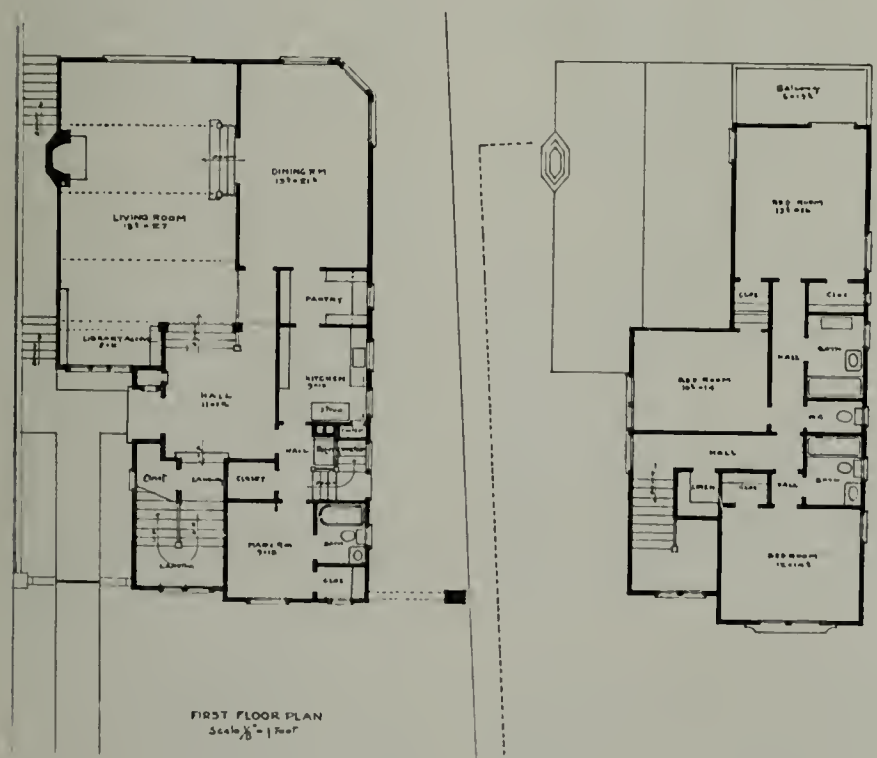

ALTERNATE PLAN, HOUSE FOR WILLIAM F. BOOTH
GEORGE E. McCREA, ARCHITECT

The
ARCHITECT
and
ENGINEER

Founded 1905 by E. M. C. Whitney

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Vol. 88 FEBRUARY, 1927 No. 2

ARCHITECTURAL BUILDING FIRMS

The day may come when architecture, as an independent profession, is non est and very generally building will be done by great financial-construction organizations employing architect, engineer, craftsman, and all under one management. — F. W. Fitzpatrick in Christian Science Monitor.

Let us hope that the Chicago architect's prognostications may not come true. Should such a condition transpire it would surely mean the death knell of the profession. There is already too much of this thing being done now and it should be the purpose of our architectural organizations to discourage the idea as far as possible. This may be done by giving the young architect full measure of encouragement. He should be impressed with the fact that if he refuses to sell his talent to these building organizations it will be difficult for them to produce good plans. And unless they can offer the client attractive plans it is reasonable to presume the owner-builder will seek other channels for architectural talent. And the natural path for him to follow is to the office of the practicing architect.

Another way of keeping the profession together is for architects to refuse to permit construction companies that do their own architectural work to figure in their offices. This plan has been found most effective.

M. A. Tournaire, member of the Architects' Institute of France, and president of the French Society of Architects, referring to the growing practice of construction companies furnishing their own plans, and the tendency of architects to become associated with them, says:

Those who wish to be closer allied with contractors may do so; they may become contractor-architects. What harm will it do? Much, and serious harm. And for that reason those of us who realize the ill that would result should be all the more zealous in establishing the "Order of Architects" that we are now forming, and to enter which a man must be a real architect and successfully demonstrate his ability to the founders who are establishing it. It is no place for amateurs and contractor-architects.

Architects who ally themselves with construction companies lose their identity as architects and become just employees. His function is to plan and co-ordinate things, but he no longer "controls." He's just a draftsman.

The successful architect of the future is not the fellow who becomes a hireling of a construction company, but the man who surrounds himself with a competent working organization, including a business-getter (if he is not that himself), together with financial connections that will help him to finance a client should the latter

be in need of such assistance. The construction end should be left to the recognized builder just as the architectural work should be left to the recognized architect.

OPINIONS VARY; BUILDING OUTLOOK

Building statisticians are not agreed upon the recent statement of S. W. Straus that the "saturation point" in construction work has been reached. "This may be so in some cities, but it is not true throughout the United States," is the assertion of Secretary of Treasury Mellon. Secretary Herbert Hoover expressed the view that there is still a shortage in apartment houses of the cheaper type, that rent for $15 per room and under.

Mellon's view is that the general situation is very fair for building. Labor costs are stable, he pointed out, and material cost changes are gradual.

Part of Mr. Straus' statement follows:

I wish to make it plain that I do not look for any radical drop in the volume of building in the country during 1927, and the general business interests of the nation need feel no apprehension on this point. There has been at least $2,000,000,000 worth of private building carried over from 1926. There also is an unusual amount of public building scheduled for this year in addition to a considerable volume of expenditure on power plants and other types of construction by public utility corporations.

My conclusions with regard to office buildings, apartment houses, hotels and apartment hotels have been reached from studies showing that after five years of very heavy building we have reached the saturation point in these four types of structures. Of course, all new buildings must be allowed a reasonable time in which to become established and in any case an occupancy of 90 per cent is considered normal. The market will be able to absorb the rentable space in the buildings now completed or in process of construction. It would, however, not be advisable to continue bringing out new projects of the four types I have designated until the supply now on the market and in process of construction has been more thoroughly absorbed.

In San Francisco it is generally admitted that no more new office buildings will be needed for a while after those now under construction are completed. There is still a demand for apartments, however, and builders of community houses and small two and three room residence flats need not worry over their investments. They will surely return good interest. The hotel situation has not been entirely taken care of, either. There is room in San Francisco for several more high-class hostelries.

Other types of construction will go on as usual, including the erection of Federal, State and Municipal buildings, theatres, churches and homes. Mr. Straus' warning will do no harm. To preach caution is a good fault, providing it is based upon an intelligent understanding of the situation.

BETTER CHURCH ARCHITECTURE

The Board of Architecture of the Methodist Episcopal Church is going right ahead with its campaign inaugurated more than a year ago, to encourage better design. The fruits of the Bureau's work are already manifest and before another year it is expected still greater results will be attained. Bishop F. J. McConnell, speaking for the Committee on General Reference, is quoted as saying:

We believe the time is at hand for the Methodist Episcopal Church to take an advanced stand in the whole matter of church building. We should no longer suffer ugly and inadequate buildings to be erected. Ugliness, slovenliness or unsuitable arrangements should be looked upon as evidence of irreverence and carelessness in sacred things.

A Methodist Episcopal Church edifice as a center for our ministry of worship, evangelism, instruction, fellowship and service, merits the best possible planning and care. It should concretely represent the faith that gave it expression. As a sanctuary, the very architecture should tend to induce the spirit of reverence and worship. As a school and social building, it should efficiently care for the standard educational program of our church.

Recognizing that the building of churches is a highly specialized task, in

which many otherwise good architects are unskilled, we urge the selection of architects who understand something of the history of church architecture, who appreciate the architectural features making for reverence in worship, who thoroughly understand the demands of a modern church program and who have had actual and successful experience in the building of churches.

That the church really needs to give more serious consideration to the matter of ecclesiastical architecture is emphasized by the importance of the subject and by the many badly planned buildings still being erected. One great edifice recently constructed was so planned that twenty Sunday school teachers must compete for attention within one room.

It is, indeed, encouraging to note that churches are more and more seeking advice and architectural service of a higher order than formerly.

METROPOLITAN NECESSITIES

It has long been recognized by Landscape Architects and City Planners that parks of various types are absolutely indispensable to wholesome and prosperous city life and growth. The values of such civic assets not only accrue to business or industrial sections, but also to residential districts of all classes where it is found that both economic and esthetic values are greatly increased by proper provision of facilities for outdoor recreation, in fact, expenditures for parks bring increased property values and revenue to the city treasury.

Mr. William E. Harmon of Wood-Harmon & Co., a large reputable firm of realtors in New York City, has recently secured some data on the effect of parks on surrounding land values. He says, "While I have repeatedly demonstrated to my own satisfaction that small parks give to the surrounding land an increased value sufficient to offset their cost, I realized that my own conviction may not be shared by others. I, therefore, concluded to submit a typical park plan to a number of the most competent real estate developers with a hypothetic question as to the influence that such a park would exert on the surrounding land if incorporated in a development of their own. As these men get the price at which the public purchase their real estate, and do so through expert knowledge of the conditions, and as they are subject to loss if their opinions as to value are in error, it would seem that such consensus of opinion would approximate the truth." The question asked was—"what effect would a park have upon the land as subdivided in percentage of increase or decrease on the average inside lot value of $1000?" The replies to this question all indicated a substantial increase in valuation ranging from 25 per cent up to 50 per cent. It was further found that the increase in value of lots immediately around a park offsets the cost of the land embodied in the park and improvement of the street surrounding the same.

What more proof does one need to justify the establishment of legislation requiring all subdivisions to dedicate at least ten per cent of the unplatted grounds for park use without any burden whatever upon the land owner. It is the professional opinion of the writer that all cities should insist upon real estate subdivisions providing adequately for park facilities before platting plans are accepted and filed, for thereby the city will, in one sense of the word, automatically come into possession of small parks which are so essential in the life of the present as well as future generations.—J. W. Gregg, Landscape Architect.

Society of Engineers

The following officers for 1927 have been elected by the San Francisco Society of Engineers: President, George E. Tonney; vice-president, John Wallace; treasurer, William G. Rawles; secretary, Albert J. Capron; directors, H. H. Ferrebee, George H. Geisler, George Waite, R. G. Green and Glenn B. Ashcroft.

Comments from Contemporaries

LIVING LONGER, OR LIVING BETTER

(Valve World)

INSURANCE actuaries have figured almost to a decimal point that the average span of human life has been lengthened by eight years. We seem to be living longer than our more immediate forefathers did; at least our expectancy of longer life appears to be better than theirs was. It is a duty we owe to our Creator, our fellows and ourselves to live as many years as we can, and it brings a feeling of comfort and encouragement to be assured that we may hope to live a little longer today than we might have done fifty or a hundred years ago.

It should not be forgotten that the life insurance experts have a distinctly restricted interest in vital statistics. Professionally, they are not at all interested in anything but the length of life, the number of years that we may pay premiums on life insurance policies before the insurance companies have to "cash in" on them, to pay the bet they made with us as to the number of years we might live. Those, however, who look upon life in its broadest sense, who view it as a whole, are very deeply interested in much more than the mere length of life. They are interested most of all in its quality; not the number of years, but the sort of life we put into them; not whether we live longer, but whether we live better.

To live longer is desirable, but to live better is essential. To keep in motion the complex mechanism of life is in itself alone to achieve little in the great scheme of things. Idiots, perverts, wastrels and criminals have lived far beyond the allotted span of human life. Many others have merely lived without adding anything, or at most very little, to the sum of worth-while human achievement. Some have attained the century mark with nothing to their credit but years; others have passed on before thirty, and left the world measurably better for their comparatively short stay with us. If we wish to live longer so that we may have more years to live better, we could have no worthier ambition; but if we merely wish to liver longer, and without concern as to the quality of our living, then the sooner we quit living the better.

There is no nobler object for contemplation than an aged man or woman whose years have been crowded with usefulness and filled with good. And there is nothing more inviting of pity and regret than an aged person whose chief achievement has been the postponement of physical dissolution. To live longer, means nothing. To live better, means everything.

"SKIMPING" ON THE JOB

(San Francisco Chronicle)

CONTRACTORS who attempt to "skimp" on cement in carrying out public school construction contracts in San Francisco are in for a bad year and will be blacklisted by the Board of Public Works.

This was the warning issued by the works body after C. H. Sawyer, superintendent of construction for the Bureau of Architecture, had placed Vicenzo Fassio, head of the Mission Concrete Company, on the carpet for permitting the use of a weak concrete mixture in constructing the new million dollar Everett Junior High School.

Sawyer, through the agency of a secret inspection system, discovered that workmen employed by Fassio were holding out one bag of cement every five sacks or so in mixing concrete. After testing out the mixture in the city laboratories this situation was confirmed.

"I don't know anything about it," pleaded Fassio. "If the men held out on cement they did it themselves.'"

Sawyer was forced to accept this explanation, but with the proviso that the workmen be discharged immediately.

THE SKYSCRAPER

(Improvement Bulletin)

HARVEY WILEY CORBETT, a New York architect, says the skyscraper embodies the first new principle in construction for more than two thousand years.

"I believe the skyscraper not only has come to stay, but that we will live to see the time when most of our great buildings will be small and unimportant affairs compared with the skyscrapers of the future," he says. "Less than a generation and a half ago we began to use structural steel in buildings. Its use changed the whole approach to the building problem. It made the skyscraper the most efficient building; efficient because it concentrates in a small area a large

group of business men and women who have quick and easy access to each other.

"The skyscraper is not responsible for traffic congestion in any sense of the word. London, without a single skyscraper, has suffered from traffic congestion for years. New York knew traffic congestion in certain sections before the skyscraper existed. Vertical transportation by elevator within the structure tends to replace transportation on the horizontal streets connecting low buildings. It is more rapid, more effective than street transportation."

Mr. Corbett believes that provisions for parking space, several street levels for various classes of traffic, and elevators would afford necessary traffic relief by increasing street capacity by 600 per cent at least.

SUPER HOMES BY SUPER ARCHITECTS

(Hotel Monthly)

ARCHITECTS, since the dawn of history, have been the creators of civilizations. They have designed homes and temples and super homes. Homes from hut to palace. Temples from the crude piling and arching of stones to the majestic cathedrals. Super homes in form of the modern hotel—many homes under one roof — the structure safe and fireproof; each individual home of the group with temperature regulated by the turn of a valve; light produced by the touch of a button; purified water hot and cold on tap; a plentiful supply of pure air; privacy; and the acme of luxury in decorations and furnishings.

Architects today, who have specialized in hotels, have glorified the super home with creature comfort delivering qualities not dreamed of a hundred years ago. They have commandeered the discoveries and inventions of all ages and all peoples; have weighed, measured, tested and selected materials, and have planned, assembled and developed the modern hotel which affords every desired convenience and luxury.

The architect who has the genius and ability to produce the modern hotel in its highest degree of perfection is a poet, a great civilizer, a builder who carves his name in the Hall of Time.

Architect Is Given Verdict

A verdict for $25,000 in favor of Architect Joseph L. Stewart of San Francisco, against the United Income Properties, Inc., an organization formed to build a million-dollar hotel in Oakland, was returned by a jury in Superior Judge Conlan's court. The jury held that the following four stockholders must pay $5000 of the judgment: Louis E. Engelberg, R. C. Young, Ludwig Sterner and K. Gluck. Stewart sued for $72,000.

POSITIONS AND HELP WANTED

(No charge for these insertions)

POSITION OPEN TO ENGINEER — A man of good character and personality for sales engineering work in steel building products. Prefer college graduate in structural engineering department. Should have three or more years' experience in engineering or salesmanship work. Give experience and reference.

POSITION WANTED — A recognized Eastern designer would like permanent connection on or near the Pacific Coast. If you now have, or soon expect to have a vacancy, please permit me to present my qualifications. Address Box Y, Architect and Engineer.

SAN FRANCISCO architect would like to share portion of his office space, centrally located, with some other architect. Rent reasonable. Address Box 1, care of The Architect and Engineer.

POSITION wanted as draftsman in Bay region office. Phone Glencourt 2788.

YOUNG LADY having four years' high school experience in mechanical drafting, would like position in architect's office. Phone Market 1028.

POSITION WANTED by draftsman. Telephone San Anselmo 3148.

Architects Move

Architect Paul A. Needham has moved to 2617 Locksley place, Los Angeles.

James G. Beach, architect, has moved from Pasadena to 897 Overton street, Portland, Oregon.

John S. Siebert, architect, has moved to suite 532-34 Granger building, San Diego.

W. P. Stephenson, university architect, is at 2620 Hillegass street, Berkeley.

Architect Walter Steilberg has moved from Los Gatos to Berkeley, care of the Mercantile Trust Company.

A. B. Rosenthal has moved to the Regent apartments, Sixth and Parkview streets, Los Angeles.

Leonard L. Jones, architect, has moved to 444 Douglas building, 257 South Spring street, Los Angeles.

Royal Dana's new office is at 729 Bank of Italy building, 649 South Olive street, Los Angeles.

Harwood Hewitt, architect, has moved to 609 Petroleum Securities building, 714 West Tenth street, Los Angeles.

L. F. Mulqueen, architect, is now at 518 Lissner building, 524 South Spring street, Los Angeles.

Irving C. Miller, architect, has moved to 333 Cudahy street, Walnut Park, California.

Roland E. Coate, architect, has moved to 318 Union Auto Insurance building, 1008 West Sixth street, Los Angeles.

Percy Parke Lewis, architect, has moved to 1024 Barnside avenue, Los Angeles.

Schultz & Weaver, architects, moved to 1142 Subway Terminal building, 417 South Hill street, Los Angeles.

Jacob W. Purinton and Associates, architects, have moved to 1100 Chapman building, Los Angeles.

With the Architects

Building Reports and Personal Mention

Architectural Exhibitions

The San Francisco Chapter of Architects will have an architectural exhibition in May. Los Angeles architects have just concluded a successful exhibit. In Seattle interest seems to wane in the matter of exhibitions, as evidenced by the following report by Arthur L. Loveless, chairman of the Chapter Committee:

The Exhibition Committee decided that if an Architectural Exhibit were to be held it should be of high order, calling for out-of-town exhibits, as well as local drawings. Such an exhibit would cost probably $1,500, held in the proper place.

A questionnaire was sent to each member of the Chapter asking for his opinion as to the advisability of holding such an exhibition, and whether or not he would support it. About twelve answers were received—ten, advocating it, and two questioning its feasibility.

While the Committee has not met for definite decision, it has seemed to the Chairman inadvisable to attempt an exhibition this winter, as we are all of the opinion that an architectural exhibition, to be effective, should be held in the late fall or early winter.

Concrete Apartments

Architect William H. Weeks, San Francisco and Oakland, is completing working drawings for a six-story reinforced concrete apartment house of 120 rooms to be erected at Lake and Madison streets, Oakland, for Dr. David and Edith B. Haddon. The building will be equipped with two passenger elevators, electric ice machines, garbage chutes, wall beds, steam heat and hot water and every modern convenience. The owners will spend $300,000 on the project.

Plans have been completed by the same architect for a one-story concrete store and shop building to be built on North Second street, San Jose, for Dr. J. S. Strub. The lessee of the shop is W. H. Pickard, plumbing engineer of Oakland and Berkeley.

Bank Building

Architect William H. Crim, Jr., 425 Kearny street, San Francisco, is completing plans for a $40,000 reinforced concrete bank building for the Bank of Suisun. Plans are being completed in the same office for a new Ackerman and Harris theatre in the Mission district. Associated with Mr. Crim is Architect G. A. Lansburgh, who will have charge of the interior design.

Martinez Store Building

District Attorney A. B. Tinning of Martinez will build a two-story Spanish type store and office building on his Main street property in that city. His architect is Clarence T. Tantau of San Francisco.

Extension Course in Drawing

A university extension course in mechanical drawing will be given on the University of California campus this spring by Fred W. Dittus. The course is designed to meet the needs of students of engineering who are deficient in elementary mechanical drawing. The class will meet in room 206, Art building, Monday and Wednesday evenings, from 7 to 10 o'clock.

Fraternity House

Plans are being completed by Architect W. D. Peugh of San Francisco for a two-story frame and stucco fraternity house to be built on Leconte avenue, east of Euclid, Berkeley, for Theta Upsilon Omega. Associated with Mr. Peugh in planning the building is Architect E. R. de Cheene of Berkeley. Approximately $35,000 will be spent on the improvements.

Mobilized Women to Build

Tentative plans for the construction of a community house on the property secured by the Berkeley Mobilized Women at Seventh and Virginia streets, was discussed at the annual meeting of officers of the organization. Mrs. Aaron Schloss, former president of the California Federation of Women's Clubs, was elected president.

Concrete Tunnel

A concrete tunnel, providing passage way from the Claremont Key Route Terminal to the basement of the Claremont Hotel, is to be constructed immediately from plans by E. C. Prather, C. E., of Oakland. Later on provision will be made for seventy-five additional rooms to this hotel.

High School Building

Plans have been completed by Architects Starks and Flanders of Sacramento for a one and two story reinforced concrete high school building at Mount Shasta. There will be fourteen classrooms and a combination auditorium and gymnasium. Bonds amounting to $80,000 have been voted.

Gable Cottage

Architects Miller and Warnecke have prepared plans for a model "Gable Cottage" to be erected in St. James Wood, Piedmont, at a cost of $10,000. Many unusual and attractive features have been planned. The same architects are designing a $30,000 Spanish home for a client in Hillsborough.

PERSONAL

C. E. Eaton, former assistant state engineer at Sacramento, has been appointed principal assistant flood control engineer of Los Angeles county. Mr. Eaton will assume his new duties March 1.

Architect Charles F. Plummer has recently completed the remodeling of his offices at suite 1108-1109 W. P. Story building, Los Angeles. A feature has been made of the decorating in Mr. Plummer's private office.

Architect Ralph C. Flewelling has been elected a director of the Architects' League of Hollywood, succeeding Architect R. A. Holbrook, resigned.

Architect M. Eugene Durfee announces the removal of his office from 505 Commercial Exchange building to suite 221 in the same building, Los Angeles.

Architect C. J. Smale, formerly with Chisholm, Fortine & Meikle, is now associated with Architect H. J. Knauer at 1124 S. Western avenue, Los Angeles.

Architect William Bruce has moved his office from 621 Pacific National Bank building, Los Angeles, to suite 1221 in the same building.

Charles A. Hill, architectural designer, has moved his office from 216 Broadway Place, Pasadena, to 451 Rodeo Drive, Beverly Hills.

Architect Robert W. Snyder announces the opening of an office for the practice of his profession in the Spreckels building, San Diego. Mr. Snyder will be pleased to receive building material catalogs and other literature for his files.

Friends of Architect H. C. Chambers, associated with Myron Hunt, Los Angeles, will be pleased to learn of his recovery from a quite severe illness. Mr. Chambers' work is well known to the profession in Southern California, and his interest in the development of good architecture has made him many enthusiastic admirers.

John Stafford, for several years a representative of George C. Sellon and Company, architects and engineers of Sacramento, has become associated with the firm of Coffman and Sahlberg, with offices in the Forum building, Sacramento.

Edward L. Mayberry, architect and engineer of Los Angeles, has been employed by the city trustees of Calexico to supervise the reconstruction of buildings in that city damaged by the earthquake of January 1.

The R. A. Herold Company, architects and engineers, successors to the late R. A. Herold of Sacramento, have moved their San Francisco office from the Hearst building to 683 Sutter street.

Architects Mark T. Jorgensen and L. H. Keyser are now associated with Architect Frederick H. Meyer in the practice of architecture. Offices are in the Bankers Investment building, San Francisco.

Architects Weeks and Day of San Francisco have leased new offices in the Financial Center building, San Francisco, having moved from their quarters in the California Commercial building on account of poor daylight.

Going Abroad

Architect Smith O'Brien of San Francisco will sail March 26th on the steamship Celtic for a seven months' trip abroad. During February Mr. O'Brien gave an interesting exhibition of sketches and paintings at the Beaux Arts Gallery, San Francisco. Some of this work will be shown in an early number of The Architect and Engineer and during Mr. O'Brien's stay in Europe he will add to his collection of sketches for publication in this magazine.

$2,250,000 Apartment Hotel

Erection of the Arcady Apartment Hotel, a new $2,250,000 property at Wilshire and Rampart boulevards, Los Angeles, is to begin at once, it is announced by J. B. Lilly and P. B. Fletcher, owners of the Gaylord Apartments, who have completed arrangement with S. W. Strauss and Company for a bond issue of $1,325,000 for this purpose. The new building is being designed by Architects Walker and Eisen, who also designed the Gaylord.

Sues for Fees

The Galt Junior High School District of Sacramento county has been made defendant in a suit for $1260 by the Davis-Heller-Pearce Company of Stockton for architectural services. The architects claim they were employed in September, 1924, for service in the erection of a high school and that in September last year their services were terminated "without cause."

Architects and Engineers Wanted

The United States Civil Service Commission has announced that until March 31 it will receive applications for positions of assistant architectural engineers and assistant structural engineers in the office of the Supervising Architect for employment in connection with the $165,000,000 public buildings program recently authorized by Congress.

$600,000 School

Architects Reed and Corlett of Oakland are preparing working plans for a concrete high school, costing $625,000, to be erected by the Oakland Board of Education at Hopkins street and Park boulevard.

Architects' Chapter, Society and Club Meetings

Northern California Chapter

The regular meeting of the Northern California Chapter, American Institute of Architects, was held on Tuesday, January 18, in the rooms of the San Francisco Architectural Club, 523 Pine street. The meeting was called to order by President John Reid, Jr., at 7:30 p. m.

The minutes of the November meeting were accepted as published.

The Committee on Legislation reported a review of the proposed changes in the State Housing Law.

Mr. Hays reported for the Committee on Membership. A steady increase in Institute members at the rate of three or four per month was shown.

President Reid called the attention of the Chapter to the new Competition Code and Circular of Advice.

Chairman Coxhead of the City Planning Committee reported regarding cooperation in working with other organized bodies interested in city planning.

It was moved, seconded and carried that the Northern California Chapter endorse the movement being initiated by the City Planning Section of the Commonwealth Club to form, by Charter Amendment, an adequate City Planning Commission, and offer to them support and co-operation.

Mr. Bertz reported that permission from the Park Commissioners for the spring exhibition in the Park Museum had been obtained. The date for the exhibition was set for the month of May.

It was moved, seconded and carried that a committee be appointed to report on the advisability of an honor award competition for executed buildings. The president appointed Mr. Allen, Mr. Hays and Mr. Coxhead.

The secretary reported that the change of the name of the Chapter had been set for hearing in the court on February 21.

Mr. Allen read a most interesting paper prepared by Mr. Charles Peter Weeks, which was delivered to the Commonwealth Club at a recent meeting.

Southern California Chapter

Officers for the year 1927 were installed by Southern California Chapter, American Institute of Architects, at the annual meeting at the University Club, Los Angeles. D. J. Witmer succeeds himself as president, and other officers are: C. E. Noerenberg, vice-president; Edgar H. Cline, secretary; W. L. Risley, treasurer, and Sumner M. Spaulding, director.

An interesting report of Chapter activities for the past year was given in President Witmer's address, and Secretary Cline reported on the work of the executive committee and standing committees. A movement to secure a permanent meeting place for the Chapter was launched, and a committee was appointed to investigate possibilities and report at the next meeting.

Leo Katz, a painter of national renown, gave a very interesting address on art and the birth, development and decline of various periods of architecture and art. He stated that he was much impressed with the originality displayed in American architecture.

Members of the Chapter and their guests who attended the meeting were: Ralph E. Homann, president of the Builders' Exchange; Leo Katz, artist from Vienna; W. R. Perry, Merchants and Manufacturers' Association; Hugh R. Pomeroy, secretary Regional Planning Commission; Seward Simons, Chamber of Commerce; Miss Sable, California Art Club; McNeal Swasey, Myron Hunt, G. Stanley Wilson, Alfred W. Rea, C. E. Noerenberg, C. R. Johnson, Lloyd Rally, A. W. Hawes, Frederick Hust, Lee Fuller, Robert B. Stacy-Judd, Andrew Sharp, H. W. Bishop, Charles S. Cobb, S. Charles Lee, W. M. Clarke, H. F. Withey, J. T. Zeller, E. J. Borgmeyer, John P. Krempel, S. O. Clements, J. E. Allison, J. J. Backus, John C. Austin, A. F. Rosenheim, R. G. Hubby, Aleck Curlett, Reginald D. Johnson, Gordon B. Kaufmann, J. E. Stanton, Fitch H. Haskell, Roy S. Price, R. C. Flewelling, Pierpoint Davis, H. G. Spielman, H. C. Nickerson, A. R. Monaco, H. O. Sexsmith, K. E. Carpenter, D. E. Marquis, B. B. Horner, Paul O. Davis, J. C. Wheeler, S. B. Marston, D. D. McNeely, D. R. Wilkinson and W. L. Risley.

Architects' Conference

The Interscholastic Conference was held Saturday, January 22, from 9:30 a. m. to 1:30 p. m. in the Junior ballroom, Hotel Olympic, Seattle. The Conference was called to order by President Thomas of the Washington State Chapter, A. I. A., and following this an interesting program of addresses was carried out. The speakers and subjects were, in part, as follows:

Value of Free Hand Drawing—O. N.

Nichols, Art Department, Seattle Public Schools.

College Point of View of High School Instruction—Carl F. Gould, A. I. A., Seattle.

Preparing the Boy for Practical Architectural Drawing—Roland E. Borkek, A. I. A., Tacoma.

Directing the Genius Kid — George Gove, A. I. A., Tacoma.

Impressions—Dr. George H. Edgell, Dean of the Graduate School of Architecture, Harvard University.

Following the Interscholastic Conference and Luncheon, the Washington State Chapter, A. I. A., held its annual meeting in the Junior ballroom of the Hotel Olympic, at 2 p. m. Reports of the president, secretary and treasurer and of various committees were presented, the election of officers took place and other business was transacted.

In the evening Chapter members and guests reassembled in the Junior ballroom for the annual dinner. A special program was given, the principal speaker being Dean George H. Edgell of the Graduate School of Architecture, Harvard University.

Los Angeles Architectural Club

At the January meeting of the Los Angeles Architectural Club the annual election of officers was held. H. Roy Kelley was elected, by unanimous vote, to the office of president; George W. Hales was elected vice-president; J. R. Wyatt, secretary, and H. B. Smith, treasurer, all unanimously.

The meeting was held at the Elite Cafe and about fifty members attended. The retiring president, H. O. Sexsmith, and secretary, J. R. Johnson, gave their annual reports and president-elect Kelley made a speech of acceptance, outlining the policy of the administration for the coming year. The other new officers followed with short talks.

Mr. Julian Ellsworth Garnsey, who just returned from Hawaii, where he has been engaged in the mural decoration of government buildings, gave an interesting talk on Hawaii, its people and customs. Lee Rombotis, 1923 Paris prize winner, who has just returned from Europe, gave a short talk on Paris. The meeting was then adjourned to the Furman Print Shops, where a very fine collection of etchings, paintings and Chinese rugs was viewed.

Mr. H. Roy Kelley, the club's new president, is the Los Angeles architect who has, within the past year, been successful in winning four national architectural competitions, and his election is a deserved compliment to his fine work.

Sacramento Architects' Club

The Architects' and Engineers' Club of Sacramento, at a meeting held in the Hotel Sacramento, January 7, elected the following officers for 1927: President, Arthur H. Memmler; vice-president, Jens C. Petersen; secretary, Earl L. Holman; treasurer, H. W. DeHaven; directors, C. H. Kromer, P. T. Poage and Fred Ruckh. C. H. Kromer is the retiring president. The late R. A. Herold was president in 1925. The club was organized in 1922. It has forty members and holds meetings on the first and third Fridays of the month, except during the months of July and August. Seventeen talks on subjects of interest to technical men of the building industry were given during the past year at meetings of the club. A standing Building Code Committee has acted in an advisory capacity to the Sacramento city officials in the matter of building laws during 1925 and 1926.

Society of Architects

The February meeting of the Society of Architects of Alameda county was held at the Oakland Elks Club, Monday noon, February 7, and was largely attended. The speaker was Earl Warren, District Attorney of Alameda county, who spoke on the subject of "Legal Contracts Between Architects and Municipal Bodies." The society will hold its first annual architectural exhibition in the Oakland Auditorium in March.

Portland Architects Elect

O. R. Bean has been re-elected president of the Portland Chapter, American Institute of Architects. Other officers are: W. R. B. Wilcox, vice-president; Fred Allyn, treasurer; A. Glenn Stanton, secretary, and John V. Bennes, trustee.

Granted Certificates

At the meeting of the State Board of Architecture, Northern Division, January 25, the following were granted certificates to practice architecture in California: Herman A. Schoening, 2108 Shattuck avenue, Berkeley; Mark T. Jorgensen, 742 Market street, San Francisco.

Hollywood Exhibit

The annual exhibition of the Architects' League of Hollywood will be held at the Hollywood Chamber of Commerce building, March 5 to 12 inclusive.

Los Angeles Hotel

Architect S. C. Lee is completing plans for a $250,000 hotel on Melrose avenue, Los Angeles, for Troyer Bros.

Field of the Contractor

Proposed Bill for Licensing Contractors

COAST-WIDE interest has been aroused in the construction industry by the proposed bill for licensing contractors in the State of California, prepared by the Builders' Exchange of Alameda county. A synopsis of the measure, which is known as Assembly Bill 1050, follows:

Its title is "State Building Department Act," and it provides that "it shall be unlawful for any person, department, partnership, association or corporation to engage in business or act in capacity of a building contractor within the state without first having obtained a license therefore."

"The term building contractor," as defined by the bill, "shall mean and include all persons, co-partnerships, associations or corporations engaging directly or indirectly and as a primary or secondary object, business or pursuit or in any way connected with the erecting, constructing, repairing, painting or alteration of any building or structure for compensation other than a daily wage."

For the administration of the proposed law a state building department is created, the chief officer of which is to be known as the building commissioner. He is to be appointed by and hold office at the pleasure of the Governor, receive a salary of $5000 a year and give bond of $10,000 executed by a surety company. He will have full power to regulate and control the issuance and revocation, both temporary and permanent of licenses and must publish on or about March 1 and August 1 of each year a directory or list of licensed building contractors and mail one copy of same to each licensed building contractor without charge. The commissioner is empowered to appoint such deputies and assistants as may be necessary to discharge the duties imposed on him by law and to fix their compensation.

The building commissioner shall have his principal office at Sacramento and may establish branches in San Francisco and Los Angeles.

All fees are to be paid into the state treasury, credited to the "building commissioners fund," from which all expenses of the department are to be paid.

The commissioner is to adopt a seal which shall be used to authenticate the proceedings of his office.

Following is the text of the section regulating applications for licenses:

"Application for license as building contractor shall be made in writing to the building commissioner, which application shall be accompanied by the recommendation of two real property owners of the county in which such applicant resides or has his place of business, certifying that the applicant is honest, truthful and of good reputation, and recommending that a license be granted the applicant. If the applicant shall have resided, or shall have engaged in business for less than one year in the county from which the application is made, the same shall also be accompanied by the recommendation of two real property owners of each of the counties where he has formerly resided or engaged in business during said period of one year prior to the filing of said application, certifying that the applicant is honest, truthful and of good reputation and recommending that a license be granted the applicant. Where the applicant for a building contractor license maintains more than one place of business within the state he shall be required to apply for and procure a duplicate license for each branch office so maintained by him. Such duplicate license shall be issued without additional charge. Every such application shall state the name of the person, co-partnership or corporation, and the location of the place or places of business for which such license is desired. The building commissioner may require such other proof as he may deem advisable of the honesty, truthfulness and good reputation of any applicant for license, or of the officers of any corporation, or of the members of any co-partnership making such application before authorizing the issuance of a license. In addition to proof of honesty, truthfulness and good reputation of any applicant for building contractor's license, the building commissioner may also require proof that the applicant has a fair knowledge of the English language, including reading, writing, spelling, elementary arithmetic, a fair understanding of the rudiments of building contracts, the reading of blueprints, the erecting, alteration, painting and repair of buildings or other structures, and a fair understanding of the obligations between principal and agent, as well as the provisions of the California building act."

In addition to recommendations applicants must file bond for not less than $5000 executed by a sufficient surety or sureties "for the faithful performance by such building contractor of any under-

taking as a licensed building contractor under this act. Any person injured by failure of the building contractor to perform his duties, or to comply with the provisions of this act, shall have the right in his own name to commence an action against said building contractor and his sureties for the recovery of any damage sustained by the failure or omission of said building contractor to perform his duties or either of them, or to comply with the provisions of this act or any of them. It shall be the duty of the building commissioner to see that such bond remains and is kept good."

For a building contractor's license the fee is $25 a year. If the licensee is a corporation each officer other than the president shall pay an additional $2 a year; if a co-partnership each member of the firm other than one designated shall pay an additional $2 a year. All applications for licenses must be accompanied by the fee and all shall expire December 31 each year.

The license shall be prominently displayed in the office of the contractor, and it shall not be operative except for the location stipulated therein. A new license will be issued without charge on notice of change of business location. A definite place of business must be maintained and change of location without notice to the building commissioner will automatically cancel license.

The commissioner shall upon complaint investigate and shall have power to suspend or revoke the license of any contractor found guilty of

"(1) Making a substantial misrepresentation, or

"(2) Making any false promise of a character likely to influence, persuade or induce, or

"(3) A continued and flagrant course of misrepresentation or making of false promises through agents or employes, or

"(4) Any other conduct, whether of the same or a different character than herein specified, which constitutes dishonest dealing."

A full hearing must be accorded holder of any license before it is revoked and any decision of the commissioner is subject to review by the superior court under the provisions of Chapter I, Title 1, of Part 3, code of civil procedure. Appeal must be filed within ten days after the commissioner makes his decision. Burden of proof is placed on appellant and court review is limited to "question whether there has been an abuse of discretion on the part of the commissioner in making such decision."

District attorneys in the various counties are charged with the duty of prosecuting violations of the act by failure to take out licenses, the penalty being a fine of not more than $500 or imprisonment in jail for not more than six months or both. A corporation is punishable by a fine not exceeding $5000.

For violation of other provisions of the act the commissioner may suspend or revoke the license of the accused contractor.

Preliminary Arch Dam Tests

First conclusions from extensive tests upon the experimental arch dam in Stevenson creek, Fresno county, are made public in the Technical News Bulletin of the U. S. Bureau of Standards for January. The Bulletin says "complete sets of deformation, strain and slide measurements have been made for varied loads up to those produced by a head of sixty feet, the height of the crest of the dam. The tests upon the dam have been made at night to eliminate temperature effects as far as possible.

"The only signs of failure are two vertical cracks in the center line of the dam, one extending from the lowest point upward some thirteen feet, the other from the highest point downward some nineteen feet. The top crack opens widest at a head of forty-five to fifty feet, and at a head of sixty feet returns practically to the same width as when no water is in the reservoir. This crack does not permit water to seep through. Its maximum width is about 0.03 inch, and the lower crack is still smaller.

"Cracks formed at the abutment between the dam and the foundation rock a short time after the completion of the dam, presumably because of shrinkage or temperature changes. These cracks were covered with a fillet of mortar in order to facilitate their observation. Very little change has occurred in them.

"The work of analyzing the data is now sufficiently advanced to warrant the following conclusions:

"1. The load carried due to the horizontal thrust in the horizontal elements (the arch ribs) has been determined for all parts of the dam under the sixty-foot head. The load is a maximum about the mid height and decreases to a small amount both at the top and bottom of the dam.

"2. The load carried by bending of the horizontal elements has been approximately determined at certain places. The indication is that the greater part of the load lies nearer the vertical center line of the dam.

"3. The load carried by the bending of the vertical elements has been partially determined. Evidently near the bottom of the dam practically all of the load is carried in this manner. Near the top none of it seems to be so carried, and the vertical elements appear to be supported by the horizontal elements.

Relation of the Sub-Contractor to General Contractor

By LINWOOD C. CHASE

METHODS by which large building operations are being handled are constantly changing. And I think it is safe to say that no phase is undergoing greater change than the relation of the sub-contractor to the general contractor. This change is being brought about by the co-operative efforts of the more progressive of both the sub-contractors and the general contractors.

Everyone is familiar with the general contractor who asks for bids and after the bids are all in, calls the subs in, one at a time, and trades them down to the point where they later wake up to find that in their anxiety to close a contract they have taken a losing job. Many sub-contractors are still letting that sort of general contractor work injury to the sub-contractors, to himself and to the industry at large, by doing that very thing. The cure lies in the hands of the sub-contractors. When they have the moral courage to put in their prices at a figure that they will not feel ashamed of and stick to that figure they will have done themselves and the industry as a whole a real and great service.

Why cannot the general contractor bring about this cure? My answer is this: The general contractor who is making any real strides toward success is doing this very thing and he is also finding that the sub-contractor who realizes this is co-operating by submitting his real bid the first time, rather than putting in a shopping figure which means nothing, with the expectation of cutting it later. The change cannot be brought about at once, but is surely being brought about gradually by the co-operation of sub-contractors and general contractors who have the vision to look beyond the one job under immediate consideration.

A good friend of mine, who is a sub-contractor, recently discussing this with me, said, "What is your idea of the course of action I should pursue when asked to put in a bid to a contractor who I know never lets the contract to the low bidder without having first shopped?" He described a case in which he had submitted to this contractor a fair figure and was later asked to meet a figure which was about $1000 lower. The job ran above $50,000 and he claimed that he could still see a profit if he reduced his figure. He needed the work to keep his force busy. He said that he had put in a figure in the first place that he had thought low enough to get the contract, but the job was still attractive to him at the reduced figure.

My answer to him was that my concern had been in the same position on several occasions and that while it took real courage to stand pat the first time, I was convinced that this action had saved us a great deal of time and money and had gained for us the whole-hearted respect of our competitors, and, what is of still more importance, had landed for us, on several occasions, the contract at our own figure rather than at the figure of the lowest bidder. The lowest bidder is not always the successful bidder. Out of a list of invited bidders it is the invariable practice of our office to award the contract to the low bidder. We often receive bids, however, from concerns not on our invited list, which are not given serious consideration, even though they are low, and we do not ask any bidders to meet these figures.

No general contractor should expect a sub-contractor to take a contract at a price that will not yield a fair profit. In the long run a person gets just about what he pays for. And he should demand that and nothing more. It is a short-sighted policy on the part of the general contractor to attempt to take advantage of a price which is too low for the work, because the slight saving effected may be offset many times by the losses he is forced to take, through delays and dissatisfied owners and architects, and we all recognize the business asset of satisfied clients.

I firmly believe the day is rapidly approaching when general contractors and sub-contractors will realize more than they generally do today that the only way to secure the results satisfactory to all concerned—the owner, the architect, the sub-contractor and the general contractor—will be through the medium of teamwork between the sub-contractor and the general contractor. Teamwork and mutual understanding.

To achieve this teamwork and mutual understanding is not as difficult as it may seem. Are our interests not parallel? Are we not dependent, one upon the other, in reaching the goal, which in our case is a job well and quickly done? Why, then, may I ask, do not the general contractor and the sub-contractor sit down together at the start of a job and plan their campaign of action in such a manner that they can work shoulder to shoulder like the partners or team-mates that they really are in putting through the job at hand?

There are no grounds for the feeling which some of our predecessors have had that the general contractor is boss and the sub-contractor, employe. We are simply experts, each in his own line, joining forces. It is true that the gen-

eral contractor selects his own associates to help him carry out the job as a whole. This fact makes it all the easier for us to work together. The sub looks to the general contractor for a square deal when it comes to making progress payments and in giving him reasonable opportunity to do his work in an economical way. But the general contractor is no less dependent upon the sub to do his work at the proper time and in the proper manner.

Many of our larger operations must be completed within a specified time, for various reasons. The general contractor must prepare with great care a proposed progress chart. He should then give the sub-contractor his best estimate of the time when the work of the sub will be ready for installation and should keep him posted regarding any changes from time to time. And the sub-contractor should realize fully his responsibility and how disastrous to the whole operation may be his failure to do his part at the proper time.

Can you imagine in a football game a halfback failing to respond when the quarterback calls upon him and later offering the excuse that he did not expect the quarterback would call upon him as soon as he had said he would. Would you permit such a halfback to play on your team again even if he did promise to be good in the future? Yet that is just what often happens in this game of building. How often you feel disgusted, when, after exerting every possible effort to bring a project to a certain point, you call upon the other fellow to do his part, only to be told, "I did not think you would be ready when you said you would. I cannot start for a couple of weeks yet."

I would recommend to sub-contractors that they put their lowest bid in first and then stick to it. After a few times they will not be asked to meet someone else's figures. And when they get a contract, they should go to the general contractor and show him that they want to work with him and want to give him real assistance. And if they do not find that he is ready to co-operate with them and make it easier for them they should go ahead and get through with that job as best they can and not look for much more work from him. That general contractor is slipping and his place is about to be taken by someone who can see beyond one job.

Teamwork is the only way in which the best results can be obtained and is, I think, the only basis upon which the relations of general contractor and sub-contractor can be satisfactorily worked out.

Punctuality as a Virtue

We are moved to endorse with full heartiness the following observation from a Western contemporary made in the course of a discussion on punctuality:

"The habitual breaker of appointments is not only a nuisance in everyday life, but by his disregard of the consequences to others of his own acts manifests a quality that may be reflected in more important judgments. The prime reason why promptness is desirable is that it involves the keeping of an implied promise, and so emphasizes integrity. Another is that it recognizes the right of other parties to the compact to the economical use of their own time."

Punctuality is a virtue—and by no means a minor one—in all circumstances. It is both a virtue and an asset to the man in business. One who habitually keeps his engagements punctually is not likely to fail in the keeping of his other promises. A highly developed sense of obligation is a valuable possession and one that should be acquired and cultivated as early in life as possible. To the business man who would be successful, it is indispensable.—Valve World.

President's Summer Home

Salt Lake City architects declare that Utah, and not Colorado, would make an ideal summer home for the President of the United States. The statement was made at a meeting of local architects because of a rumor that a summer retreat was being erected for President Coolidge in Colorado.

South Dakota has come forward with an offer to build a $250,000 summer White House in its Black Hills country. Building of the presidential vacation home would be contingent upon the acceptance by the President, of South Dakota's invitation to spend his next vacation in the Black Hills. The home, Representative Godfrey said, would be placed in the Custer State Park.

Building Factory Addition

Hill, Hubbell & Co., manufacturers of paints and varnishes for all purposes, with headquarters at 115 Davis street, San Francisco, found it necessary, on account of limited space in their factory at Army street and San Bruno avenue, to construct an additional one-story concrete factory on these premises, containing 5200 square feet, for the manufacture of varnish. It is estimated this expansion will increase the varnish output fully 100 per cent. Hill, Hubbell & Co. maintain branches in Seattle, Portland, Los Angeles and New York. Products of this concern have nation-wide distribution.

Los Angeles Engineers

Los Angeles Chapter, American Association of Engineers, held its December meeting on Thursday evening, the twenty-third, at the Windsor tea rooms. In spite of the close proximity of Christmas, thirty-five members and guests were present and were rewarded by hearing three good speakers.

At the conclusion of the dinner, President Olmsted called upon Donald M. Baker, National second vice-president of the Association, to introduce State Senator Charles W. Lyon, who spoke on the methods and procedure required in getting measures through the State Legislature. Senator Lyon believes that California should have an engineers' registration law because it will raise the standards of the engineering profession, and he expressed regret that the presentation of a bill for that purpose was not being contemplated for the present session of the legislature.

The second speaker of the evening was Charles W. Kyson, president of the Hollywood Architects' League, who was introduced by Director Rolf Newman. Mr. Kyson stated that the most important problem facing architects and engineers is the education of the public to the value and necessity of competent architectural and engineering advice. The quickest and most effective way to reach the public with this message is through newspaper and magazine publicity, and the value of such publicity cannot be overemphasized. It is somewhat difficult to convince some architects and engineers of this, but the Architects' League has demonstrated what can be accomplished, and is receiving inquiries concerning its work from all over the world. The league has also been successful in educating its own members as to the necessity of better business methods and accurate records of costs in their own offices.

Mr. Hubert Forry, past national director of District No. 2 of the A. A. E., then introduced J. M. Buswell of Fresno, the present national director for this district. Mr.Buswell gave an excellent talk on the present activities of the national organization. Some of the most important subjects upon which the national employment service, protection of the title "engineer," formation of a national department of public works, standardization of service of municipal engineers, registration laws for engineers, engineering education, and action against fraudulent correspondence schools. One of the most valuable ways in which the Chapters can assist in advancing the Association program is by securing as much publicity as possible for all engineering or A. A. E. activities. Mr. Buswell closed his address by outlining the contemplated visit to District No. 2 of President C. J. Ulrich of Salt Lake City.

California Stone in 1925

The annual report of the California State Mining Bureau dealing with the Mineral Production for 1925, just issued, gives in detail the output and value of the various stones used for architectural, decorative and structural purposes. In comparison with many other states of larger area of stone deposits, availability to markets, etc., the California figures appear small, but development seems to be active and future operations are expected to show marked increases. Of the decorative stones, marble is widely distributed in the state, the deposits varying widely as to color and grain. The 1925 figures show a slight decrease from 1924, being 35,664 cubic feet, valued at $116,105. Onyx and travertine are known to exist in a number of places in the state, but the production has been small and irregular, the chief 1925 shipments having been made from Solano and Mono counties, the output totaling 19,940 cubic feet valued at $16,120. Sandstone, while available in a number of places has not reached a high production figure, the 1925 total being only 14,704 cubic feet valued at $14,362. Four counties produced this stone, namely, Colusa, Los Angeles, Monterey and Siskiyou. The Monterey county sandstone is an indurated shale of a cream color and is used for building stone. Almost all of the serpentine produced in California comes from Santa Catalina Island. Slate was first produced in California in 1889 and large deposits exist in El Dorado, Calaveras and Mariposa counties. The demand has never been promising owing to competition with cheaper roofing materials.

Awarded Gold Medal

Word has been received that C. S. Jarvis, formerly of Sacramento, and now associate engineer of the federal bureau of public roads, has been awarded the James R. Cross gold medal, a coveted honor among American engineers. Jarvis was one of the first engineers to propose a barrier at the mouth of the Sacramento river to keep the salt water from encroaching on the delta lands.

Richmond School

Plans have been completed by Architect James T. Narbett for the new Mira Vista school building for the city of Richmond. The structure will be erected at Fortieth street and Roosevelt avenue and will cost $50,000.

BOOK REVIEWS

Edited by
CHARLES PETER WEEKS

The Treatment of Interiors, by Eugene Clute. 208 pages, size 9 x 12 inches, with adequate text and illustrations. Price $6.00 postpaid. Published by Pencil Points Press, 19 East 24th street, New York, N. Y.

This is another fine addition to Pencil Points library, making the sixth volume to be published in the Library Series. The author, Eugene Clute is well known to the architectural profession and to those interested in interior decoration, he having been editor of The Architectural Review before that publication was merged, and later Mr. Clute was editor of Pencil Points. This book is intended not only for architects and decorators, but also for men and women everywhere who wish to make their homes as attractive as possible, whether those homes are large or small, houses or apartments.

Attention has been centered upon vital and practical things, rather than upon dates, names, and other matters of interest primarily to collectors. The broad divisions of the subject have been indicated with sufficient accuracy for practical purposes, and only those styles of interior decoration which are in favor at the present time have been treated. No space has been given to matters of mere academic interest, which would have been included only for the purpose of making a comprehensive and complete treatment of the subject from an academic standpoint. The method of discussion adopted is very much like that which comes about naturally when an architect or decorator talks to another architect or decorator or to some client about interior decoration.

The viewpoint represented by this book is that of those present-day architects and decorators who have open minds in relation to the modern movement and make use of the old period styles with freedom and understanding of the basic principles of design, creating livable and charming interiors, expressive of the life of the owners and of the spirit of our times.

Los Angeles Annual Builders Guide — Vol. 4, 1927 — Published by the Inter-State Educational Association, 726 Story building, Los Angeles. Price $7.00.

This is a very useful handbook for architects and builders who want to post themselves on the Los Angeles building and electrical ordinances, the California State Housing act, etc. The book is endorsed by architects and engineers of the south and has the approval of the Board of Building and Safety Commissions of the city of Los Angeles, also the Southern California Chapter, A. G. C. A., the Architectural Club and the Builders Exchange of Los Angeles. The building ordinances as published have been carefully edited by Architect Ernest Irving Freese.

The Los Angeles Annual Builders Guide has become practically the "Bible" for the building fraternity of Los Angeles and Southern California. The fact that all text copy has been officially proof read makes it an absolutely safe handbook to go by and it is most universally used and consulted by all those interested in building operations. For instance, the Building Department of the Board of Education uses over thirty of these handbooks in their Engineering Department. The Building Department of the City of Los Angeles uses over fifty and in the larger architectural offices you will find as many as twenty books in daily use in one given office.

This book is copyrighted by the Inter-State Educational Association of which A. C. Hoff is general manager and the title of Los Angeles Annual Builders Guide has been registered in the United States Patent Office. Mr. Hoff advises us that he intends always to maintain the Los Angeles Annual Builders Guide as the finest publication of its kind in existence. A new edition comes out each December.

Dumbarton Bridge Completed

The first bridge across San Francisco Bay has been opened at Dumbarton and its completion will enable the motorist to make the 'round-the-bay trip, saving twenty-one miles and reducing the total mileage of the Oakland-San Francisco trip from eighty-five miles to sixty-four miles.

The structure, which represents an investment of $2,225,000 by the Dumbarton Bridge Company, is a toll bridge with the rates based upon five cents a head.

Traffic experts point out the route to the bridge by cutting off at San Leandro onto Washington avenue, avoids the congestion of East Fourteenth street. Washington avenue, a newly paved roadway, leads into San Lorenzo, where a south course is followed to Centerville, thence to the right to Newark, which is five miles from the bridge. The distance from Oakland to the bridge is thirty-two miles, while the bridge itself is over a mile in length, being 6305 feet. The east approach to the structure is over a paved road across a slough and salt pond 18,560 feet.

American Institute of Architects
(ORGANIZED 1857)

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Actors Wanted in Architectural Show

THE general public does not know what most architects do, that the greatest comedy now playing on the stage of the United States theatre, is not that excruciatingly funny farce called "The Eighteenth Amendment," but the play called "Government Architecture." The latter holds firmly the premier place among gigantic amusements. The manager of the show is the Secretary of the Treasury, one of the best bankers in the country. However, we have never been informed that he knows, or his long line of predecessors, for that matter, have known, anything about building. His active lieutenant, or leading actor is styled Acting Supervising Architect, and is alleged to be a lawyer by profession. It has always been a poor show at best, with only one star of professional magnitude, Knox Taylor, to lend an artistic semblance to the perennial performance in its run of fifty years. But the other incumbents of this stardom were at least actors. Now, with an entirely new play, with a one-hundred-and-sixty-five-million-dollar expense account, there is a scurrying around for minor actors, or those who will do the acting in fact and not in theory. To this end that government agency, called the Civil Service Commission, has been broadcasting circulars calling for assistance and assistants, stating the salaries which will be paid to those who can prove histrionic ability of highest order. First is sought an "Associate Architect," who will represent the star and do all his work. His salary is quoted to be $3000 a year. Then there is an "Assistant Architect" to be enlisted with a proffered $2400 a year as an inducement to understudy his superior. With these presumably to supply the brains, there is called for a "Chief Architectural Draftsman" with the same salary as the "Assistant Architect," a "Senior Architectural Draftsman," to pull down $1860 and a "Junior Architectural Draftsman," another supposed understudy, who will live in Washington on $1680 a year. The list of the cast includes principal draftsmen for the chorus, all of whom shall be adepts in the architectural engineering and structural turn. These, as there are probably two required, will receive $2100 each per year for the structural and architectural steel knowledge they may have picked up in odd moments, between acts in road shows. Of course, below these thespian leaders will be an army of what the guild terms "slaves" who will do the manual labor and carry their lunches. But the salary list as quoted, is probably as great as the government estimates the services to be worth. And as the show will run for five years, the enormous sum of $77,700 will be expended on actors' salaries alone. The public will have to stand the performance, and think the amount a large sum to be taken out of the trivial one-hundred-and-sixty-five millions that it contributes to its support. But this ought to be remedied. During the war there were patriotic souls among the captains of industry who gave their services to a needy government for one dollar a year. Why, in this critical emergency, cannot this expenditure of seventy-seven "grand" be saved by the patriotic actor stars of national reputation directly in the line of this farce? There is Harvey Wiley Corbett, who should sacrifice himself on his country's architectural — and financial — altar and relieve the lawyer person by serving as head actor. If Cass Gilbert would join him as "Associate" these two stars of equal magnitude would certainly put on the greatest show on earth and then some. Then I. K. Pond has so recently returned from close contact with the best architectural shows in Europe that without doubt he would readily be accepted as a valuable "Assistant." Where in the country could be found a better "Chief Draftsman" than N. Marx Dunning? His act has been on the boards so long that the mind of his confreres runneth not to the contrary, and he could select his chorus from the best sketch artists in the land. Canada should be drawn upon for "Senior Draftsman" in the person of Jules Wegman, who left the architectural team of Burnham and Root years ago to become the headliner in Toronto's leading stock company, where he has put on, and is still staging, the biggest pageant that city presents. And he is certainly "senior" in the profession. He would be proud to have John Root, Jr., for his "Junior Draftsman." The steel specialty actors could be easily picked up from among the slaves. If these actors could be secured, the public would find the farce had been revamped into a real show, that the paying public would call the greatest ever put on and one that the nations of the future would come to wonder at. At least, the present show should not be put on the boards until a department with distinct ability and wide authority is established, through which the agency can be presented with capable actors—Western Architect.

Partnership Formed

Clarence A. Kelso and Herbert E. Mackie, architects, have formed partnership under the firm name of Kelso & Mackie, with offices at 1136 Washington building, Los Angeles.

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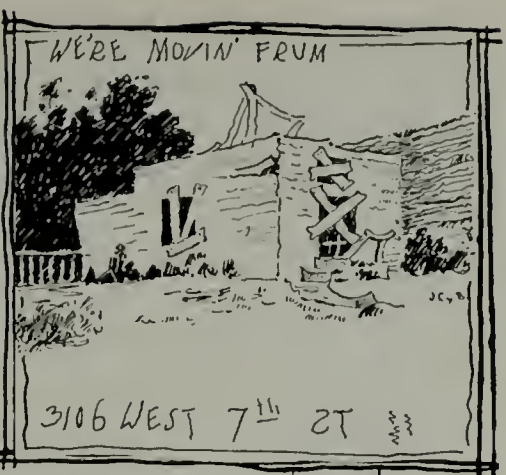

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COMPETITIONS

COURT HOUSE

Alfred C. Clas, professional adviser of the proposed Milwaukee county court house competition, writes that the competition is open to practicing architects of Milwaukee county and twenty-five invited architects from various sections of the country. The closing date for submitting plans is July 12, 1927. Further information may be obtained by addressing Mr. Clas, 445 Milwaukee street, Milwaukee, Wisconsin.

ROME PRIZES

The American Academy in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting and sculpture. The competitions are open to unmarried men not over thirty years of age who are citizens of the United States. The stipend of each fellowship is $1250 a year for three years, with additional annual allowance of $50 to $100 for material and model hire, and opportunity for extensive travel. Residence and studio at the Academy are provided free of charge, and the total estimated value of each fellowship is in excess of $2000 a year.

Under regulations revised this year for the competition in architecture, graduates of accredited schools will be required to have had architectural office experience of at least six months, instead of one year, and men who are not graduates of such schools may enter the competition if they have had at least four years' architectural office experience and are highly recommended by a Fellow of the American Institute of Architects.

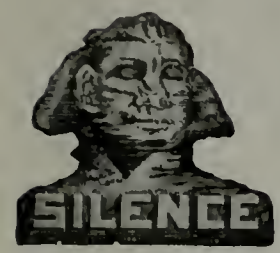
Entries for all competitions will be received until March 1st. Circulars giving full information may be secured by addressing Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park avenue, New York, N. Y.

WANT ARCHITECTS TO BID

The building committee of the Congregation Beth Abraham, Oakland, invites architects to submit offers for their services in preparing plans for the erection of a brick or brick veneer synagogue, with a seating capacity, including balcony, of 1000 people, with a ground floor plan, approximately 60x90 feet. Location is the southwest corner of Ethol and Wayne avenues on a lot approximately 100x98 feet.

Six-Story Building

I. M. Sommer & Co., 901 Bryant street, San Francisco, have been awarded a contract to erect a six-story and basement, reinforced concrete building, containing twenty-four apartments, costing $40,000, at Turk street, near Hyde, San Francisco, for G. Martin. Plans were prepared by Architect Benjamin Schreyer, 105 Montgomery street.



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What Is a Hotel?

Hotel men supporting a measure introduced in the State Senate by Senator Canepa, San Francisco, believe the word "hotel" should be defined and its use restricted. Accordingly, Canepa's bill would write upon the statute books of California the definition that a hotel is "an inn containing not less than fifty rooms and having a lobby on the ground floor."

It would restrict the use of the word "hotel" to establishments qualifying under the Canepa definition and leave the small, second floor hostelries no alternative but to think up a new name.

City Planners to Meet

With one of the strongest city planning programs ever presented in the West practically complete, all is in readiness for the opening of the state-wide city plan conference, to be held at Oakland on March 1 and 2, according to Fred E. Reed, chairman of the city planning committee of the California Real Estate Association.

The forthcoming conference promises to be one of the most important statewide get-togethers of realtors, city officials, engineers, architects, city plan experts and bankers held in some years.

Already city officials and members of city planning commissions from more than 100 California cities have announced their intention of attending the conference.

Civil Service Examinations

The California State Civil Service Commission announces that examination will be held shortly in Sacramento, San Francisco and Los Angeles for the following positions: Junior Construction Engineer, Bridges, Grade 3; Assistant Construction Engineer, Bridges, Grade 4; Junior Designing Engineer, Bridges, Grade 3; Assistant Designing Engineer, Bridges, Grade 4; Associate Bridge Engineer, Grade 5, and Associate Highway Engineer, Grade 5. Further information regarding these positions, together with application blanks for examinations, are obtainable from room 116, State building, San Francisco; room 1007, Hall of Records, Los Angeles; room 311, Forum building, Sacramento.

Lessons from Cuban Hurricane

When the Cuban hurricane wrought death and destruction last October, the Portland Cement Association sent Engineer Norman M. Stineman to the scene and he has recently made a very exhaustive report which should prove of value to architects and engineers. One hundred or more photographs were taken and prints of these may be obtained, with detailed information, by addressing the association. A. P. Denton, 785 Market street, San Francisco, is district engineer for California.

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N. Clark & Sons, 116 Natoma St., San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; and 77 O'Farrell St., San Francisco, Builders Exchange Building, Oakland.

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The Paraffine Companies, Inc., 475 Brannan St., San Francisco.
Wadsworth Howland & Co., represented by Jas. Hambly & Sons, 231 Clay St., San Francisco and Graham Hambly, 2448 Enterprise Street, Los Angeles.

BRICK STAINS
Samuel Cabot Mfg. Co., Boston, Mass., agencies in San Francisco, Oakland, Los Angeles, Portland, Tacoma and Spokane.

BUILT-IN FURNITURE
Built-In Fixture Company, 2608 San Pablo Avenue, near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market Street, San Francisco.
Joost Bros., agents for Russell & Erwin Hardware, 1053 Market St., San Francisco.
Richards-Wilcox Mfg. Co., Aurora; Ewing-Lewis Co., 625 Market Street, San Francisco.

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Pacific Materials Co., 444 Market Street, San Francisco.
Zenitherm Sales Company, Sharon Building, San Francisco.

BUILDING PAPER
"Safekote" product, manufactured by Safekote Mills, Boston, Mass.; Strable Hardwood Company, Pacific Coast distributors, 537 First Street, Oakland.

BURGLAR ALARMS FOR BANKS
Butte Electric & Mfg. Co., 956 Folsom Street, San Francisco.

CASEMENT WINDOW
Crittall Casement Window Company, Detroit, Mich. Pacific Coast representatives in San Francisco, Los Angeles, Portland and Seattle. (See advertisement.)
Detroit Steel Products Company, Detroit, Mich.; factory branch, 251 Kearny St., San Francisco.

CEMENT
Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Old Mission Portland Cement Co., Standard Oil Building, San Francisco.
Pacific Portland Cement Co., Pacific Building, San Francisco; Portland, San Jose and Los Angeles.

CEMENT EXTERIOR WATERPROOF PAINT
The A. C. Horn Company, 2119 West 16th St., Los Angeles, and Builders Exchange, Oakland.
Bay State Brick and Cement Coating, sold by James Hambly, 229-233 Clay Street, San Francisco.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

CEMENT STUCCO
Alhambra-Mission Stucco Company, 430 Eleventh St., San Francisco; 4054 Harlan St., Emeryville; 918 Twelfth St., Sacramento.

Five-Day Week

A recent national survey shows that the five-day week is now in operation in a few of the major trades in the following cities: Boston, painters, plasterers, lathers; Gary, plasterers, cement finishers; Pittsburgh, plasterers, lathers; New York, plasterers, painters; Miami, plasterers, painters, plumbers, electricians; Seattle, electricians, lathers, painters, plasterers, plumbers, steam-fitters, plasterers' laborers; San Diego, electricians, plumbers; St. Petersburg, plasterers; Portland, Ore., plumbers, steam-fitters, electricians, plasterers, cement finishers, tile-layers; Buffalo, plasterers; Columbus, plasterers; Dayton, plasterers; Philadelphia, plasterers; San Francisco, painters.

Annual Exhibition

The annual exhibition under the auspices of Southern California Chapter, American Institute of Architects, is now being held in the county museum building at Exposition Park, Los Angeles. The entire art gallery in the old exposition building is filled by the display which consists chiefly of photographs of executed work. Pictures of churches, schools and residences predominate, but various other classes of buildings are represented. The work shown is of a high order and a credit to the exhibitors.

Designing Mountain View Residence

Architect Charles S. McKenzie of San Jose is preparing plans for an English type $18,000 residence to be built in Mountain View, Santa Clara county, for William Wright. Mr. McKenzie is also making sketches for two apartment houses to be built in San Jose, one to cost $20,000 and the other $25,000.

Six-Story Berkeley Hospital

Plans are being prepared by Architect Clarence C. Cuff, Central Bank building, Oakland, for a six-story Class A hospital at Regent and Webster streets, Berkeley, for the Alta Bates Sanitarium, Incorporated. There will be 105 rooms. The estimated cost of the improvements is $500,000.

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S. Rasori, 270 Tehama Street, San Francisco.

Barrett & Hilp, 918 Barrison St., San Francisco.

Lindgren-Swinerton, Inc., Standard Oil Building, San Francisco.

Lawton & Veaey, 210 Buildera Exchange Bldg., Hohart and Webster Streets, Oakland.

R. W. Littlefield, 357 12th St., Oakland.

Dinwiddie Construction Co., Crocker Bldg., San Francisco.

John M. Bartlett, Buildera Exchange, Oakland

Clinton Construction Company, 923 Folsom St., San Francisco.

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Geo. Wagner, Park Ave., San Francisco.

McLeran & Co., R., Hearst Bldg., San Francisco.

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L. C. Larsen, 1044 Judah Street, San Francisco.

Jas. L. McLaughlin, 251 Kearny St., San Francisco.

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Annual Banquet

The Architects and Engineers of Sacramento staged their annual banquet at the Hotel Sacramento, February 3. There were over 120 present classified as architects, engineers, contractors, and material men. The speaker of the evening was A. J. Evers, secretary of the State Board of Architecture and secretary-treasurer of the San Francisco Chapter, A. I. A. Other speakers were A. R. Heron, chairman of the State Board of Control, A. S. Dudley, secretary-manager of the Sacramento Chamber of Commerce, R. B. Giffen, chairman of the City Planning Commission and Mr. Hudson, transportation engineer for the City Planning Commission. Speeches were interspersed with vocal, instrumental and dancing entertainment.

An attractive bill of fare was drawn by Roderick Miles, a designer in the State Department of Public Works, Division of Architecture.

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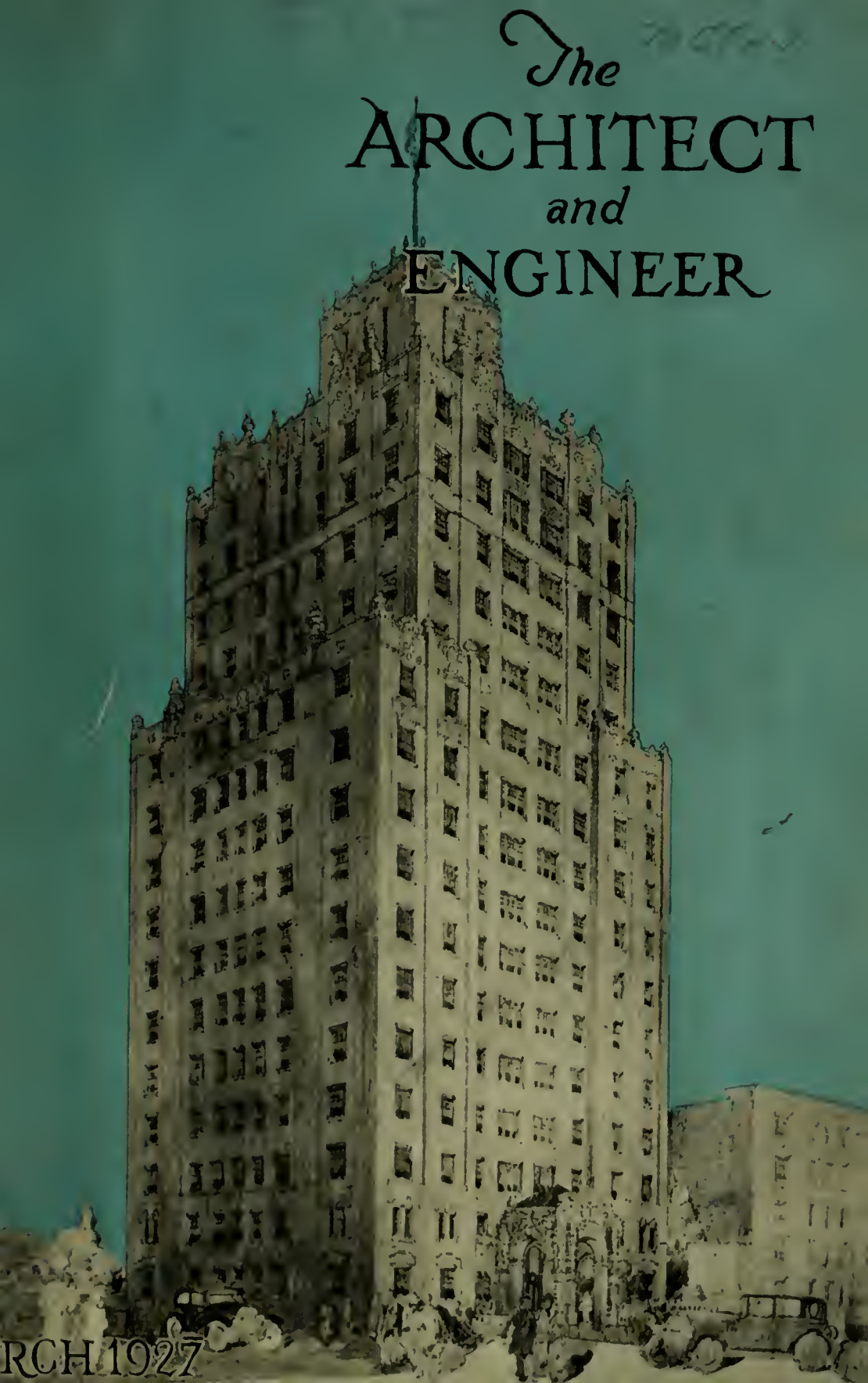

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VOL. LXXXVIII MARCH, 1927 Number 3

BETTER BUILDINGS

By

CHRIS. A. RODEGERDTS C.E.

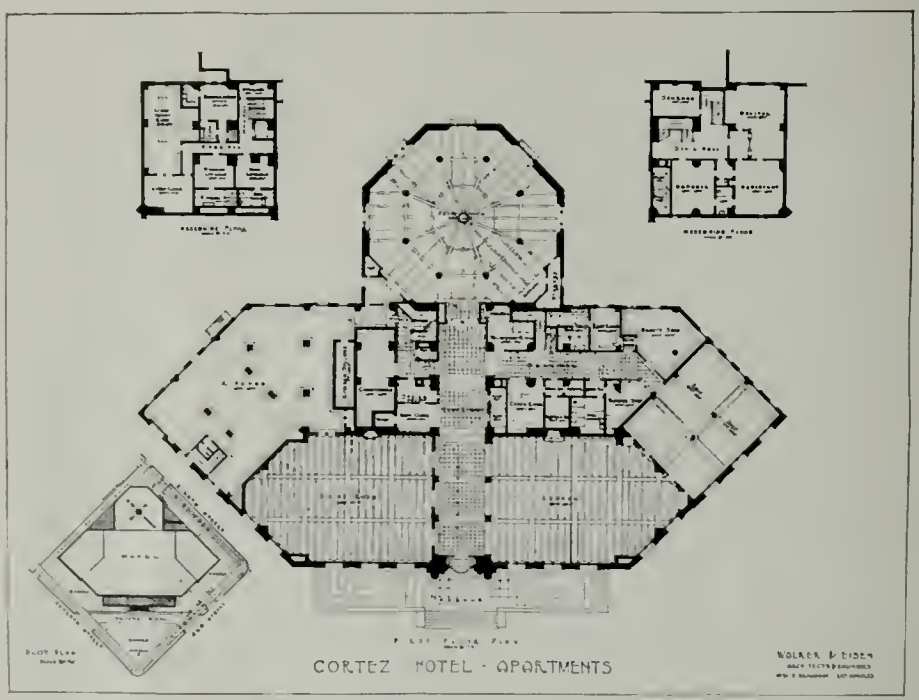
THE MOST notable feature of the building industry in our Pacific Coast cities in recent years has been the development of an appreciation of the economic value of better buildings, an appreciation of higher standards of quality in all technical and physical phases of building production, and a recognition of the need for a development of efficient supervision. From leaders in all branches of the industry—architects, contractors, material concerns, promoters of building projects and from those who finance building enterprises, come comments which clearly show this noteworthy trend in professional thought and consciousness.

In furtherance of this movement many factors involved have put forth thoughtfully developed educational effort, which is rapidly and effectually implanting a public appreciation of and demand for better buildings. Investors in commercial and rental building projects have come to realize the distinct financial advantage of a higher quality of construction, except in cases of highly speculative ventures where ultimate success of the property is not the determining factor. The prompt success of many examples of newly erected structures of the better types reflect in a very definite and convincing manner the public's appreciation of better buildings. Among all who have to do with building, the forward-thinking and conscientious groups seek not only the development and application of those technical and material factors which make for progress, but hope for the establishment in general practice of methods by which, without increase in cost, they may insure the achievement of their purpose.

Mr. Rodegerdts, the author, is head of the Pacific Coast Engineering Department of S. W. Straus & Company, with headquarters in San Francisco.

A critical analysis of the construction history of notable examples of recently erected major type buildings in our Far West cities, from San Diego to Vancouver, will clearly show the effectiveness of intelligent planning and conscientious workmanship, combined with efficient and skillful supervision. And thoughtful study of such enterprises shows in every instance the economic business value of competent supervisorial control. To achieve the best results for the money employed is the aim of all investment effort and the accomplishment of this, in the building industry, can only be attained by practical co-ordination of plan development, material selection, and structural operations through comprehensive and competent supervision.

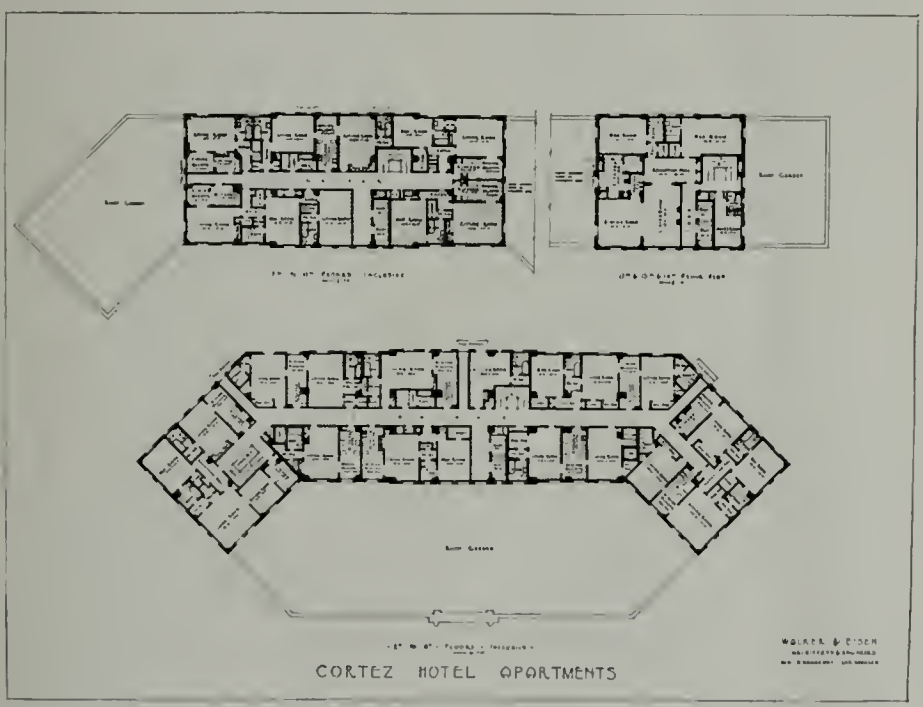
Better buildings result from careful and intelligent technical control from the moment of a project's conception to the day of the building's



occupancy. Such control should be maintained through every step of the enterprise, such as: critical preliminary study of type of occupancy, character of construction, location, cost and income; selection of an architect experienced in the successful planning of the type of buildings projected and thoroughly equipped to render the service required; comprehensive examination by experienced authorities for efficiency of plan, desirability of arrangement, and adequacy of specifications, after the architect's completion of preliminary floor and exterior studies; solicitation of bids from a selected group of contractors chosen for their known financial stability, business integrity, and competent workmanship; competent supervision during construction by the owner's engineer supplementing the architect's supervision.

The preliminary study for type of occupancy, type of construction, location, cost and income is of first importance in controlling the project

within consistent limitations and insuring its financial success. Unless the building is to be of monumental character, the result of such study will achieve an income producer without depreciation of character or structural standards. The selection of the architect is of extreme importance since he is the guiding spirit throughout the development and construction periods. Pleasing architectural development of the exterior, as well as the interior, adds caste and advertising value. Full development of drawings, amply dimensioned and clearly detailed, eliminate uncertain interpretations and consequent high costs from contractors. Complete specifications descriptive of good workmanship and proper standards of materials, safeguard against indifferent and faulty construction. A properly organized architect's office will have surrounding it good structural, mechanical and electrical engineering talent



so that this work, usually sublet, is carried out according to the best standards and practice and is economically and soundly coordinated with the strictly architectural work.

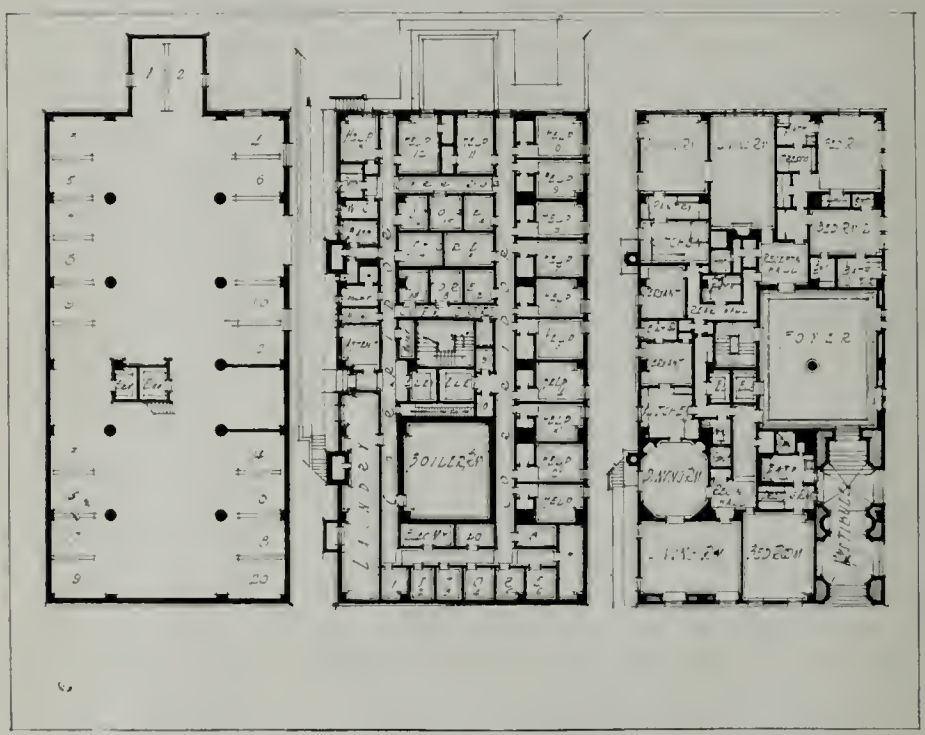
The beneficial help of practical agencies whose business has brought them in contact with large numbers of plans of various types of buildings, should be solicited in all major projects. The preliminary plans for a large office building recently constructed in Chicago were presented to a committee of the Building Owners and Managers Association for analysis and suggestions, with the result that many desirable renting features were added, the efficiency of the floor plan increased, and approximately $100,000 in building cost saved. Such consultants are in position to render this valuable service because of practical knowledge gained through the examination of the many plans and specifications continually presented to them or through extensive experience in the

2100 PACIFIC APARTMENTS, SAN FRANCISCO
HYMAN AND APPLETON, ARCHITECTS

ENTRANCE, 2100 PACIFIC APARTMENTS
HYMAN AND APPLETON, ARCHITECTS

management of buildings. From this source comes information for the owner and the architect which is unlimited compared to the experience of many architects who have constructed comparatively few buildings and who seldom have had opportunity for developing an intimate and practical knowledge of a building's operative requirements during its active renting history, such as the demands of tenants, refinements of equipment, and appointments required, etc.

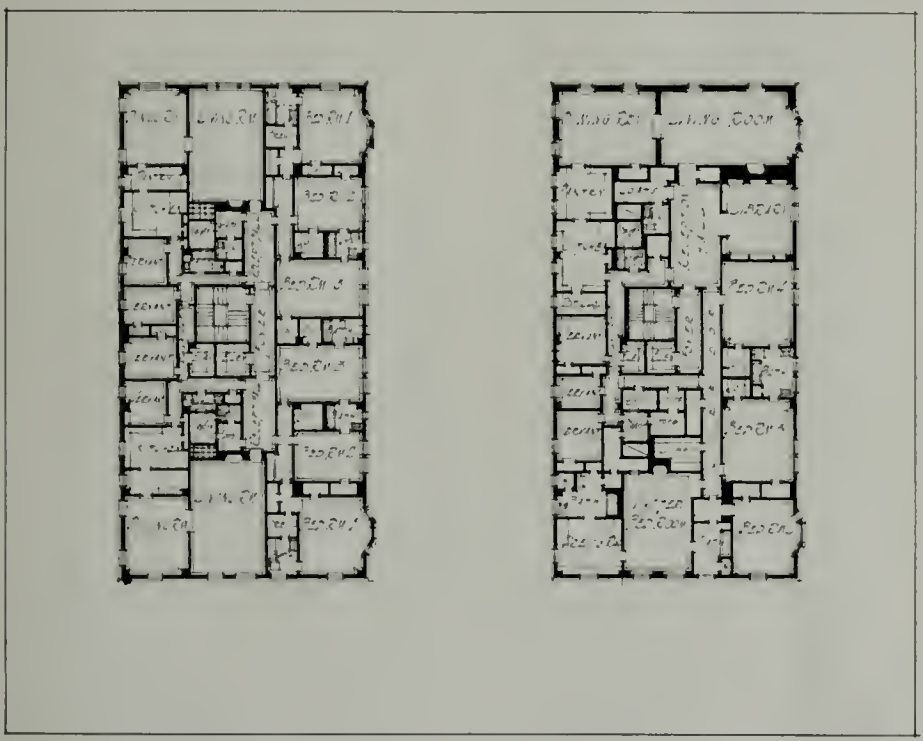
An avoidable but serious and commonly made mistake is the indiscriminate solicitation of bids without exercising proper restrictions as to contractors solicited, and the subsequent awarding of work to the lowest bidder regardless of his record for responsibility, integrity and



GARAGE, SERVICE AND FIRST FLOOR PLANS, 2100 PACIFIC APARTMENTS
Hyman and Appleton, Architects

creditable performance. The architect and others who have experience usually know how to compile a safe list of bidders, and their advice should be heeded. The contractor should have equipment and organization competent to handle expeditiously and competently the work in hand, and an office organization that can properly follow the more exacting demands regarding payment procedure and accounting that is required on major size building projects. He should have an established reputation for good workmanship that will not permit him to sublet work except to responsible parties, regardless of a lower price obtainable from another subcontractor who he knows cannot carry on the work according to proper standards.

Engineering control during construction is obtained in part through the employment by the owner of an engineering inspector who remains at the job constantly until the structure is completed and who passes upon each step in construction progress and supervises the test of all structural materials. In certain cities, such as Los Angeles and Seattle, the local building codes require such inspectors on all major type projects. It has now come to be generally recognized as essential to the proper progress of construction work and the assurance of its performance in conformity with the specified standards. Since no class of building material is free from occasional failures, thorough, consistent and competent inspection is a necessary safeguard against deficiencies. No



TYPICAL FLOOR PLANS, 2100 PACIFIC APARTMENTS
Hyman and Appleton, Architects

architect, general contractor or subcontractor, however able or conscientious, can wholly guard against errors due to ignorance or negligence on the part of workmen who may feel little or no responsibility. The reputable contractor welcomes such inspection as a dependable protection against faulty workmanship due to factors beyond his control. Independent engineering supervision by the owner's inspector is advocated today in increasing degree. It is sincerely hoped by all whose minds are attuned to thought of today that, for the advancement of "Better Buildings," for the safeguarding of the interests of architect, contractor, owner and the protection of investors, such inspection may soon become a building code requirement of every city in our country.

ENTRANCE DETAIL, STOCKTON MEDICO-DENTAL BUILDING
MAYO, BISSELL & COMPANY, ARCHITECTS

SAN FRANCISCO
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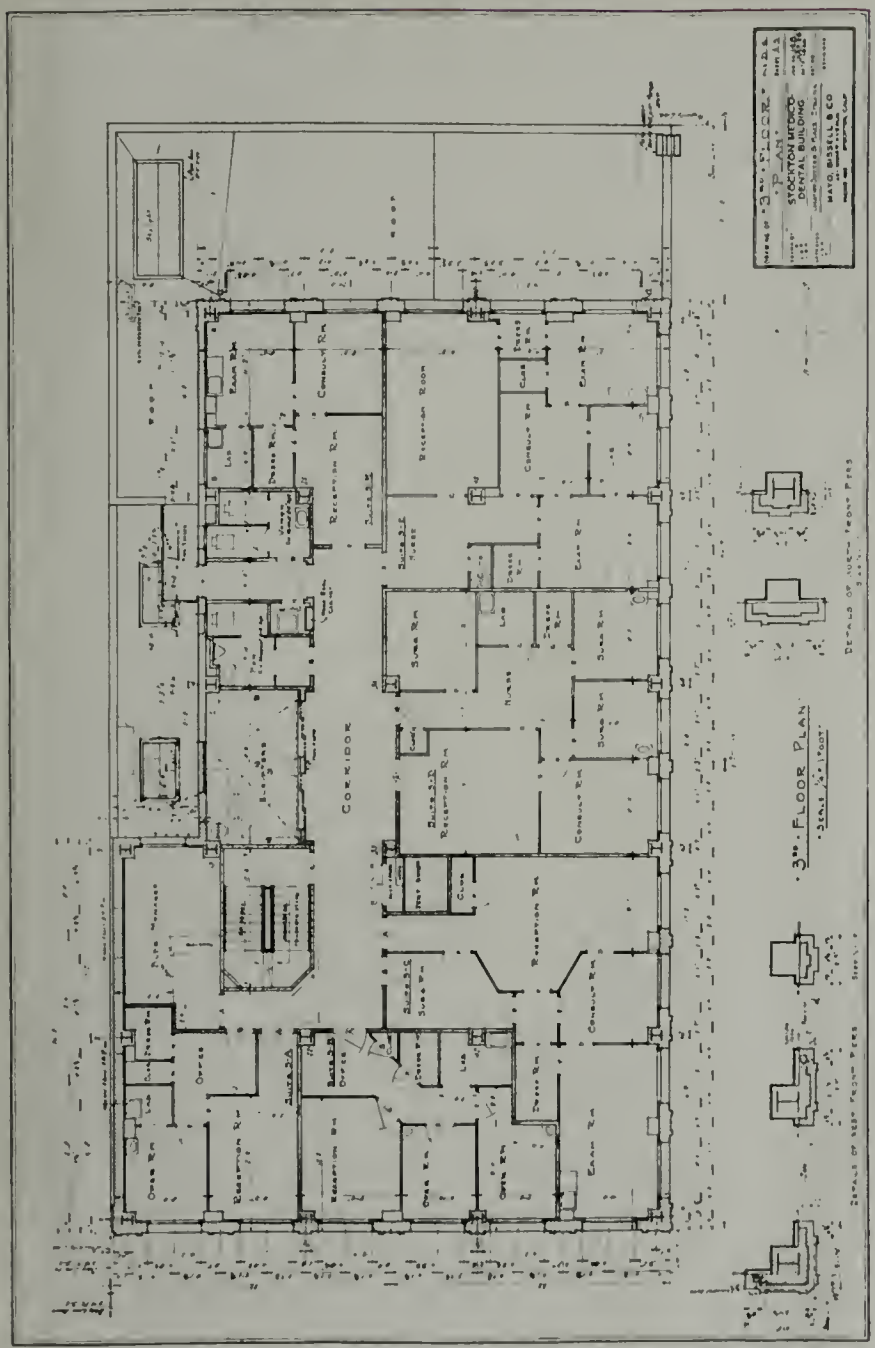
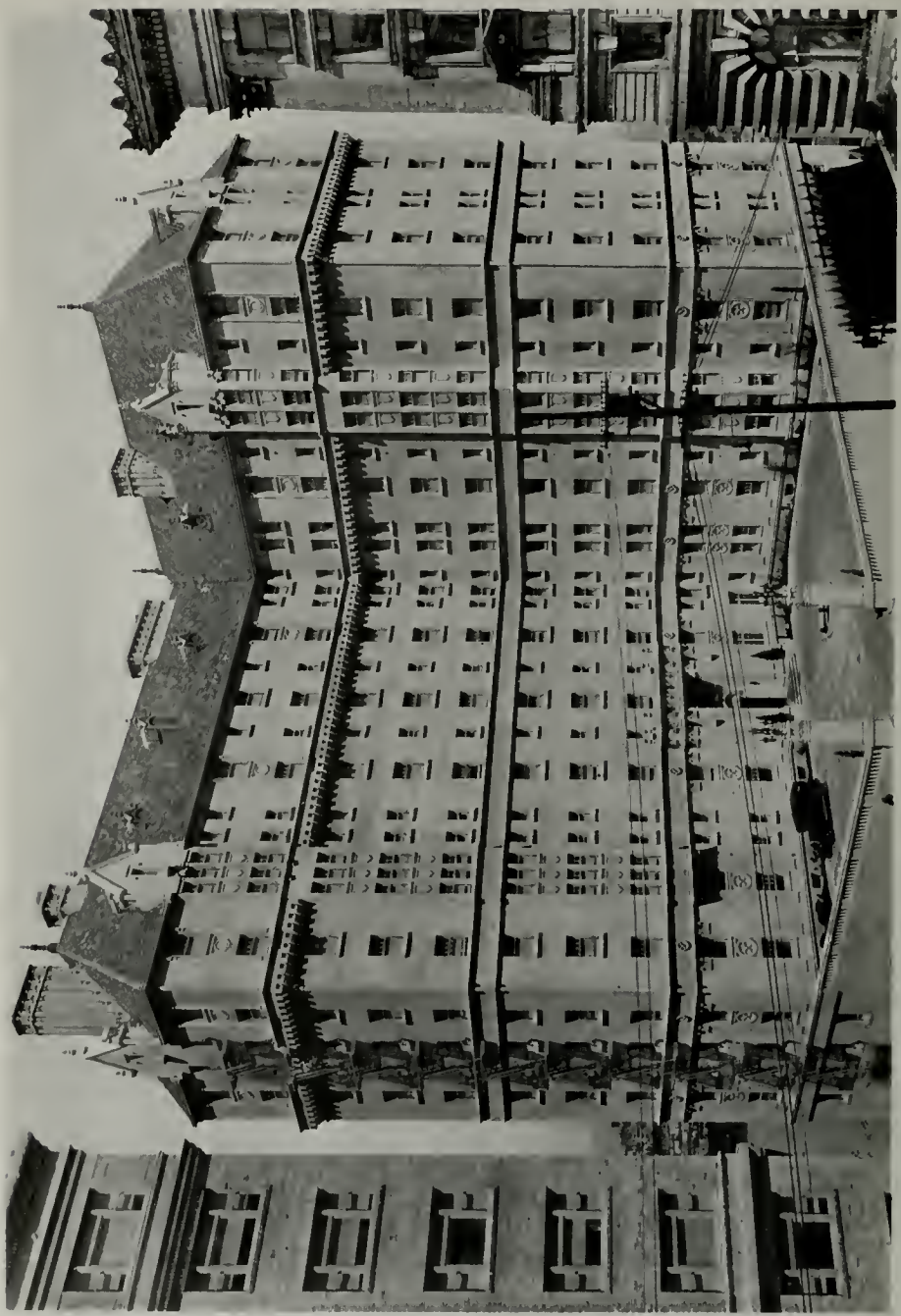


TYPICAL PLAN, STOCKTON MEDICO-DENTAL BUILDING
MAYO, BISSELL & COMPANY, ARCHITECTS



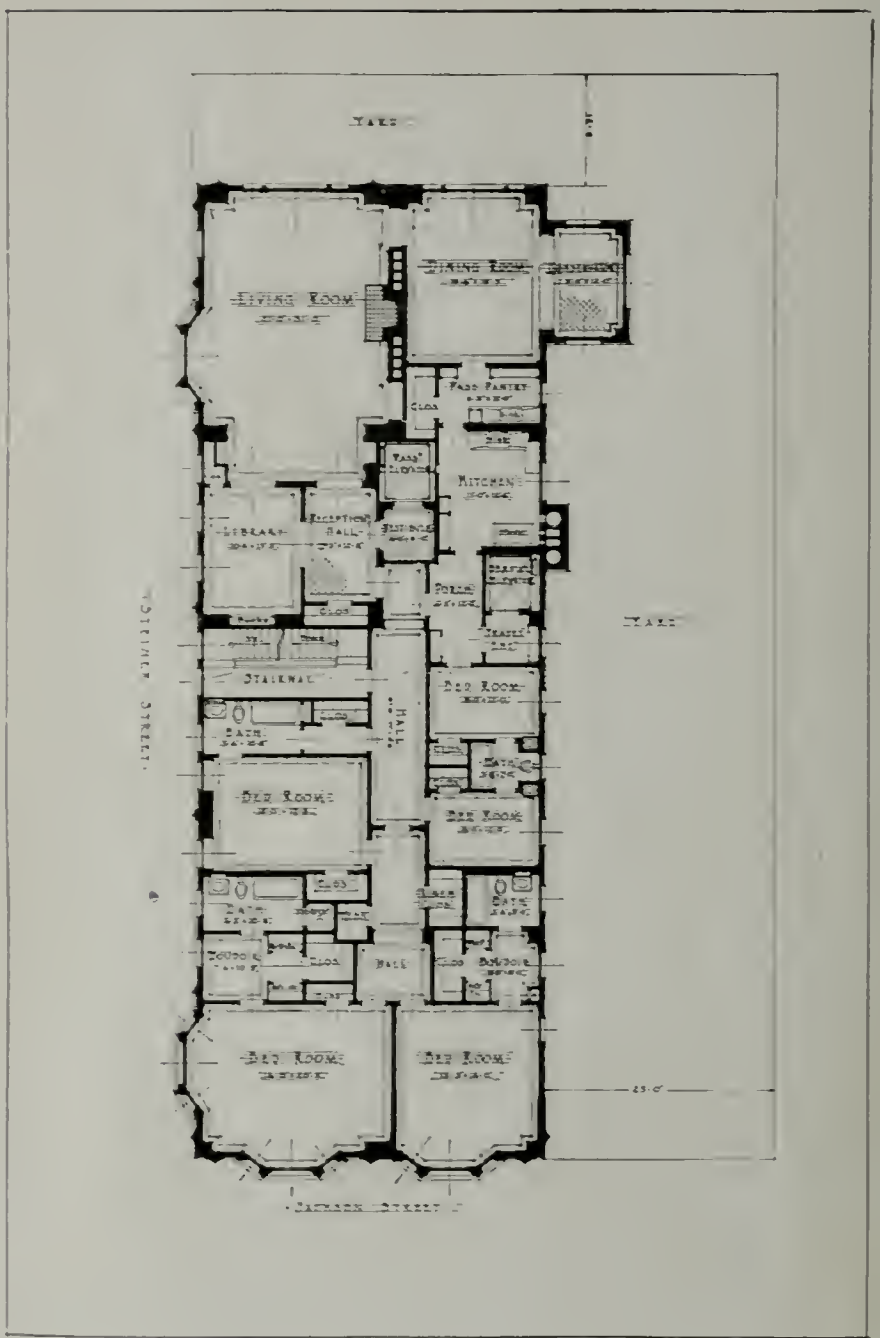
BROCKLEBANK APARTMENTS, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

ENTRANCE, BROCKLEBANK APARTMENTS
WEEKS AND DAY, ARCHITECTS AND ENGINEERS

HOTEL MARK HOPKINS, SAN FRANCISCO
WEEKS & DAY, ARCHITECTS AND ENGINEERS

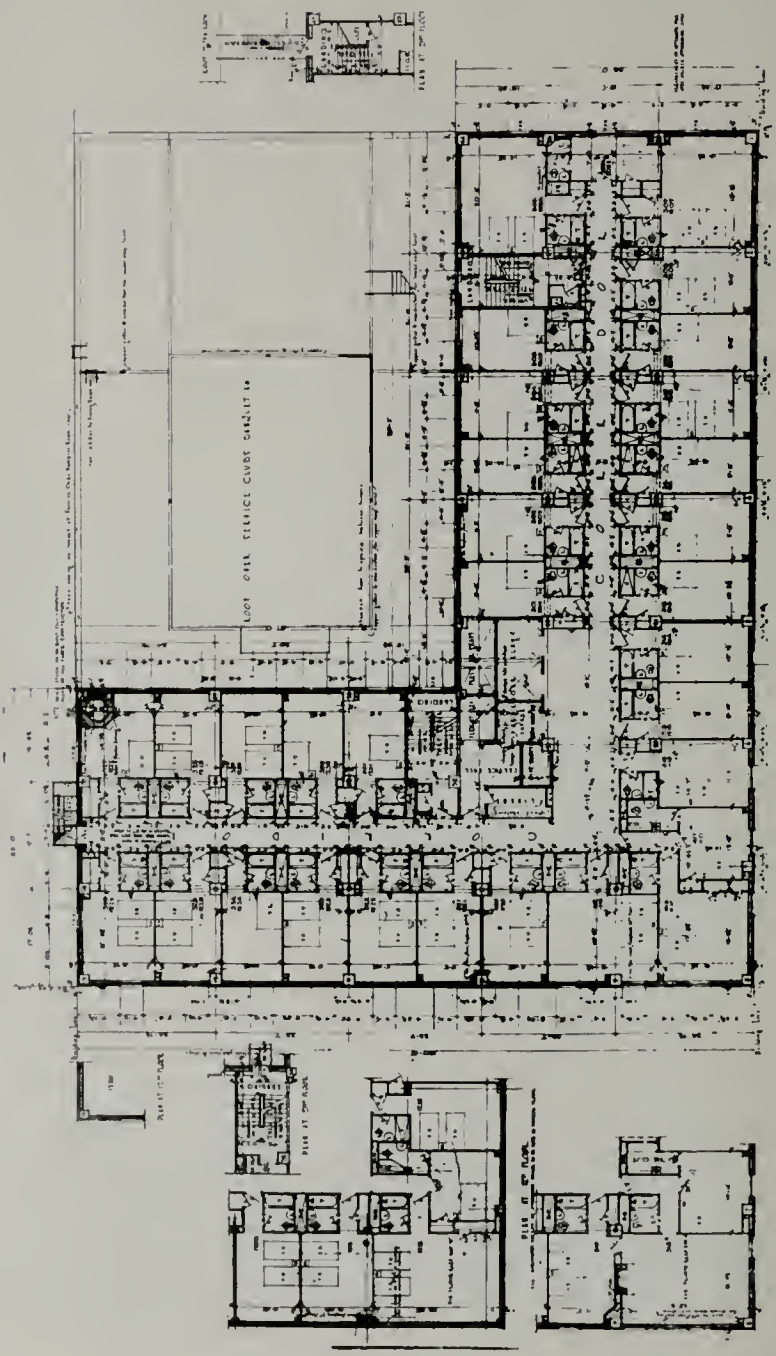
Clinton Construction Company, Builders

ALTA PLAZA APARTMENTS, SAN FRANCISCO
C. A. MEUSSDORFFER, ARCHITECT



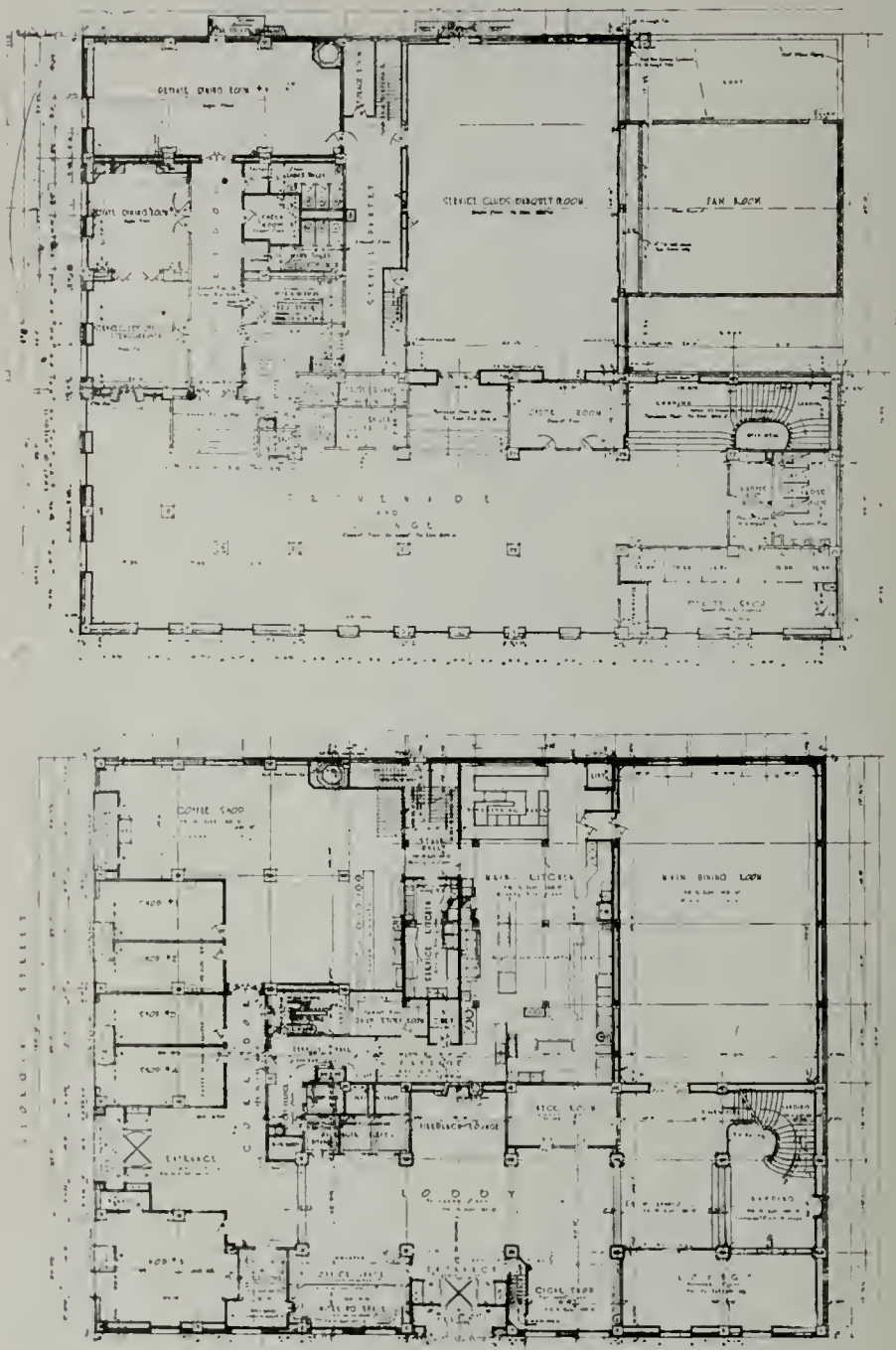
TYPICAL PLAN, ALTA PLAZA APARTMENTS
C. A. MEUSSDORFFER, ARCHITECT

MEDICO-DENTAL BUILDING, LOS ANGELES
WALKER AND EISEN, ARCHITECTS



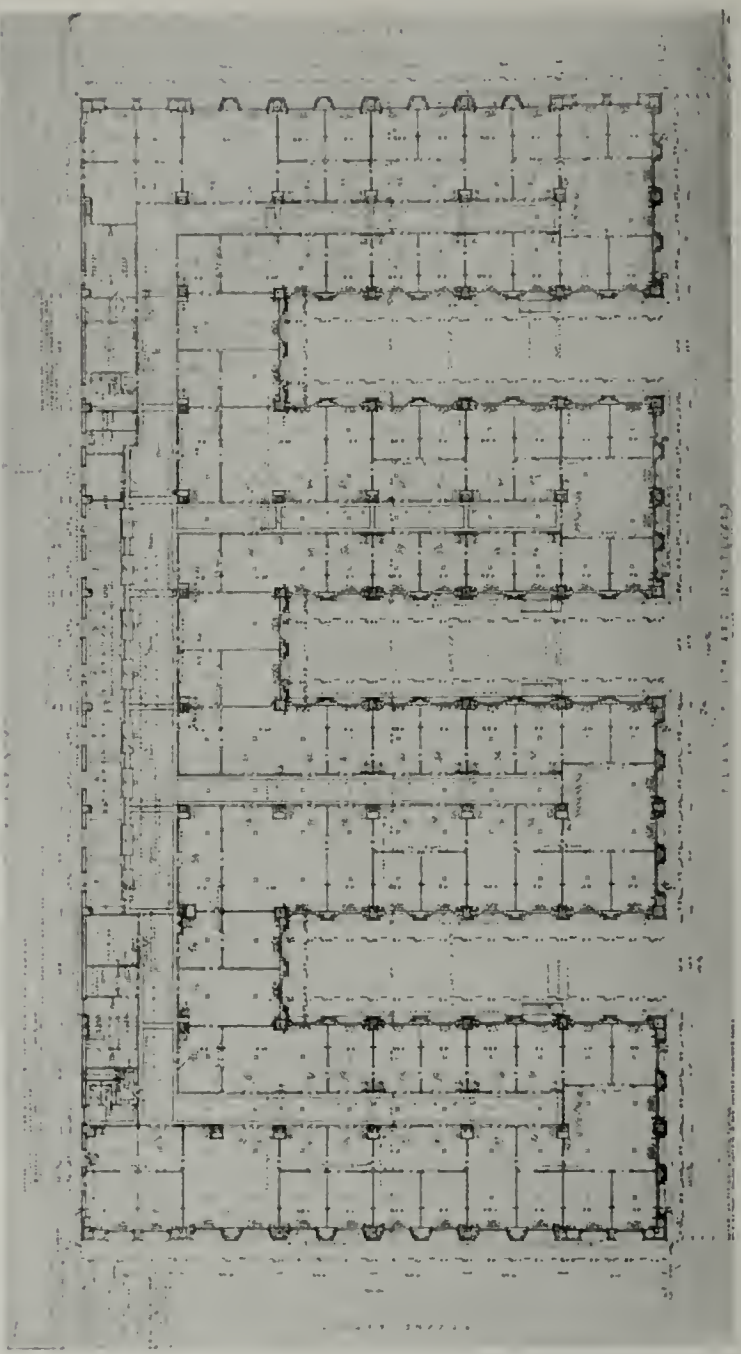
TYPICAL PLAN, GEORGIA HOTEL, VANCOUVER
R. T. GARROW AND JNO. GRAHAM, ARCHITECTS

GEORGIA HOTEL, VANCOUVER, BRITISH COLUMBIA
R. T. GARROW AND JNO. GRAHAM, ARCHITECTS



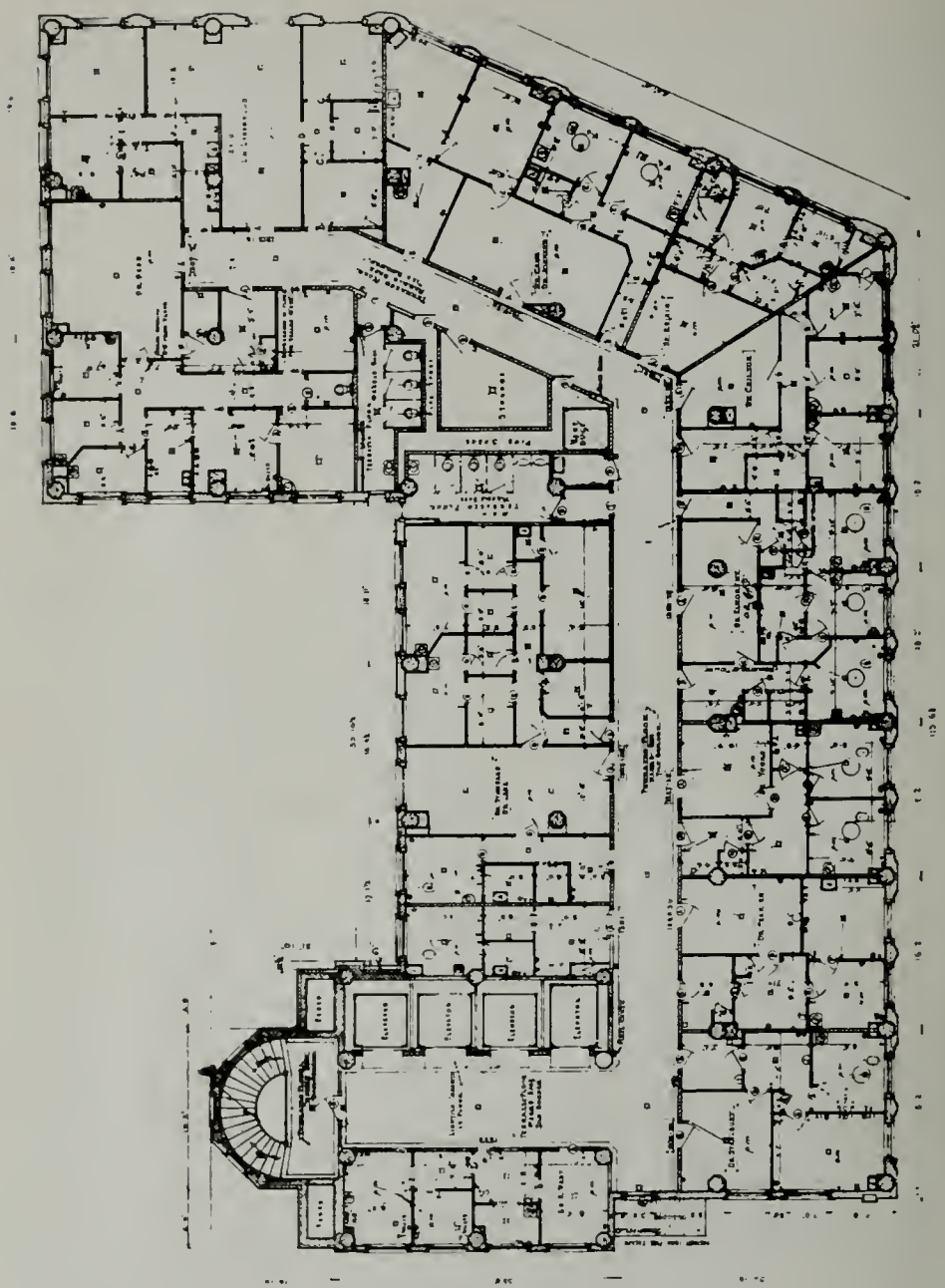
PLANS, GEORGIA HOTEL, VANCOUVER, B. C.
R. T. GARROW AND JNO. GRAHAM, ARCHITECTS

DEXTER HORTON BUILDING, SEATTLE
JOHN GRAHAM, ARCHITECT



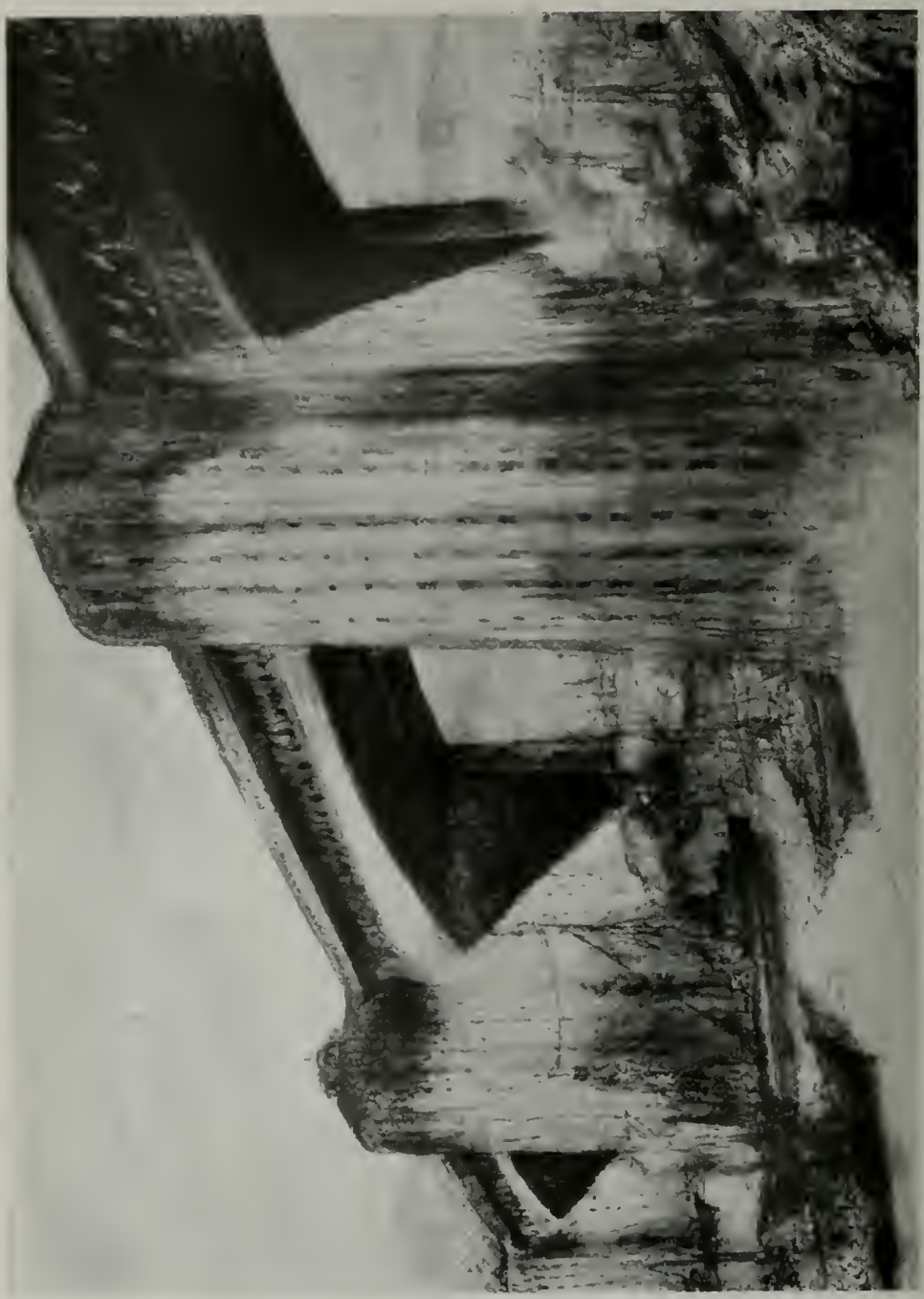
TYPICAL PLAN, DEXTER HORTON BUILDING, SEATTLE
JOHN GRAHAM, ARCHITECT AND ENGINEER

MEDICO-DENTAL BUILDING, SEATTLE, WASHINGTON
JOHN A. CREUTZER AND A. H. ALBERTSON, ARCHITECTS



TYPICAL PLAN, MEDICO-DENTAL BUILDING, SEATTLE, WASHINGTON
JOHN A. CREUTZER AND A. H. ALBERTSON, ASSOCIATED ARCHITECTS

GAYLORD APARTMENTS, LOS ANGELES
WALKER AND EISEN, ARCHITECTS



CLOSE-UP OF PROPOSED MULTIPLE BRIDGE
LOUIS C. MULLGARDT, ARCHITECT

A MULTIPLE BRIDGE *for* SAN FRANCISCO BAY *between* SAN FRANCISCO *and* OAKLAND

By
LOUIS C. MULLGARDT F.A.I.A.

IN 1924 the accompanying designs were first given publicity; they have not lost quality of merit, in seasoning. They have been entombed by an avalanche of suspension bridge designs and tubular arteries, which were submitted and highly recommended to the War Department which persistently appears as the bete noir in respect to all bay bridge projects anywhere north of Hunters Point.

It is assumed by the War Department that a bridge between San Francisco and Oakland may be destroyed by explosives and that the resultant wreckage would blockade the fleet at its place of anchorage, south of the bridge; therefore, its edict that "a bridge shall not be projected anywhere north of Hunters Point."—namely, over five miles south of the heart of San Francisco. Any bridge at that remote point would increase the distance of travel between the hearts of San Francisco and Oakland about ten miles.

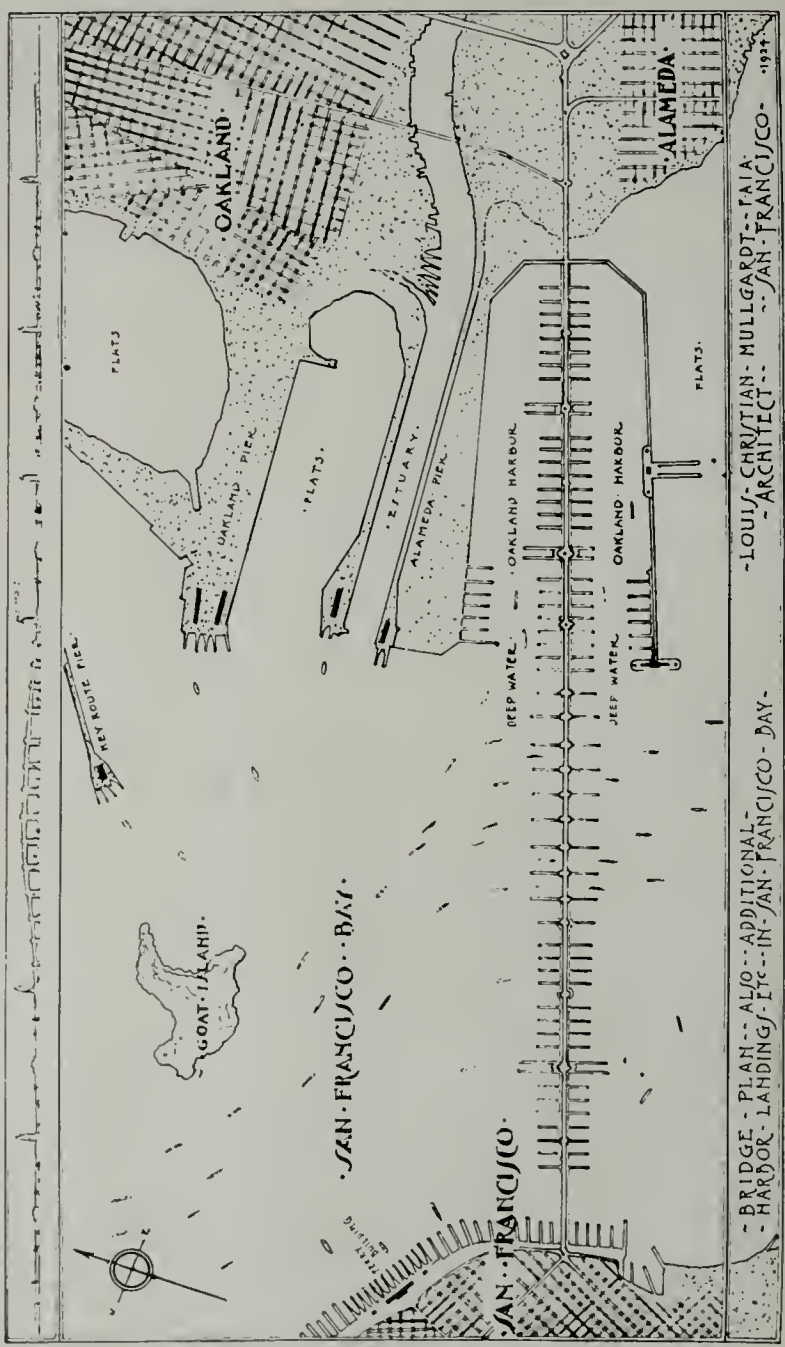
Should that restriction of the War Department be held permanently inviolable, then there is small prospect finding funds for the construction of a bay bridge. The time now required to traverse the distance between Bay Cities, is too long, irksome and expensive; but it is surely preferable to an additional circuitous drive of ten miles over congested roads.

City bridge approaches must necessarily be situated where greatest amount of transbay traffic is. Existing streets constitute natural arteries which lead to bridge approaches where they are contiguous to such traffic and bridge; they are subject to widening and to overhead roadways when and where necessary, all of which is determinable in the endless future as the cities grow.

Bridge approaches may be unlimited in number and extent in every direction, wherever traffic conditions warrant. The bridge-pour of traffic segregates at the bridge portals and elects its own direction. Therefore desirable approaches for traffic flow to and from any direction are important essentials which should govern the placing of this bridge.

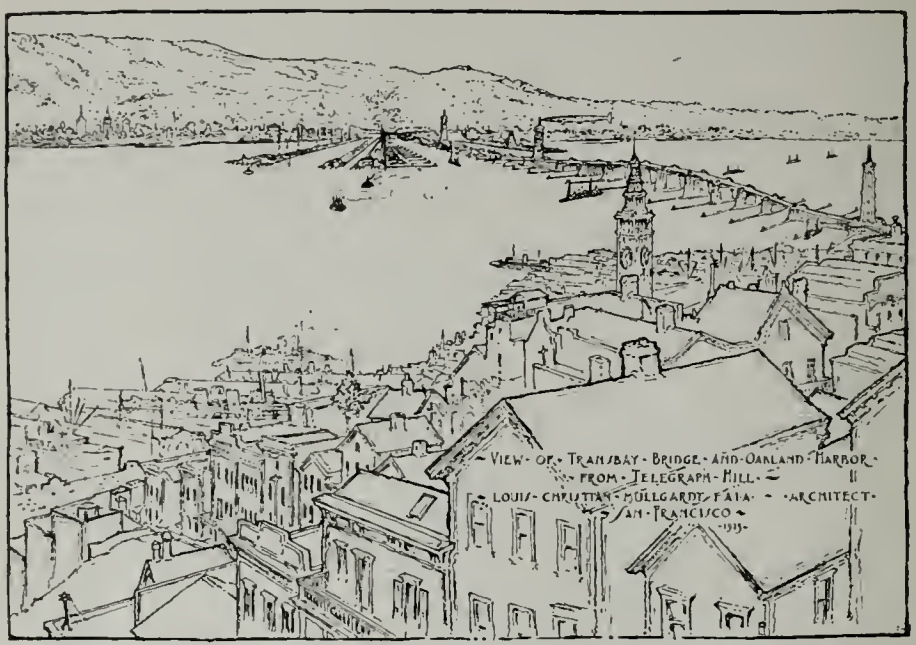
This form of steel-arched bridge, having numerous spans of 500 feet each, provides the most substantial method of bridge construction. It also contemplates multiple roadways, one above the other, when increased traffic demands. Hence it is equivalent to several bridges. Primarily, a single highway 80 feet wide, with flanking walks, will be adequate. Later on, the spaces between trusses will be used for additional roadways. Finally, additional roadways will be superimposed. This is, therefore, the most economic form of bridging the bay, none other being similarly amenable to future demands which are inevitable.

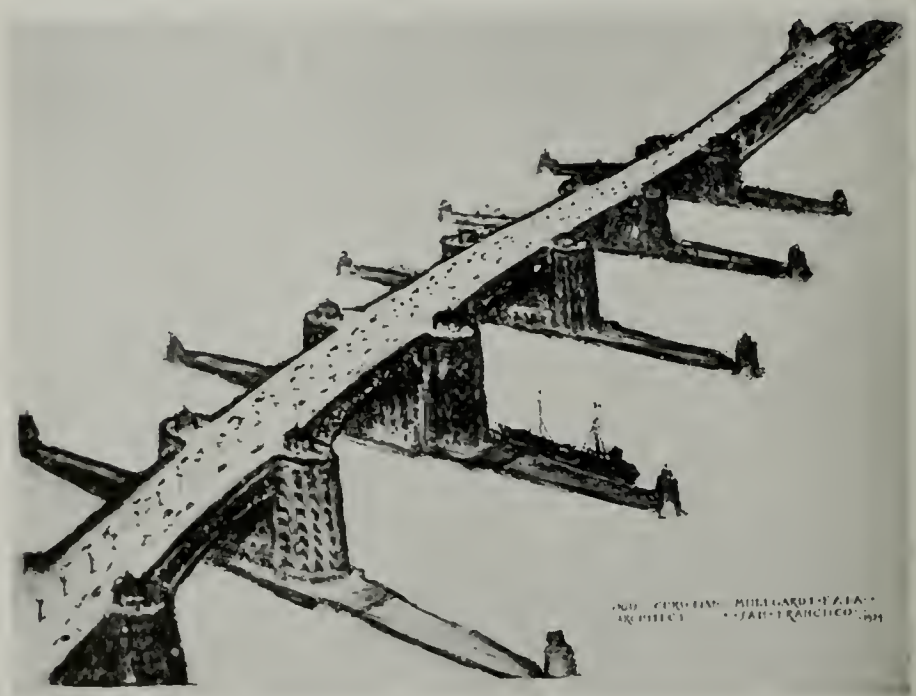
At least three of the bridge spans will be of sufficient height to enable the highest ships to pass. Deliberate destruction of one or more spans would still enable ships to pass, whereas destruction of a sus-



PLOT PLAN, MULTIPLE BRIDGE, SAN FRANCISCO BAY
LOUIS C. MULLGARDT, ARCHITECT

PEN DRAWING, PROPOSED MULTIPLE BRIDGE
LOUIS C. MULLGARDT, ARCHITECT





PROPOSED MULTIPLE BRIDGE, SAN FRANCISCO BAY
Louis C. Mullgardt, Architect

pension bridge of single span would block the passage of all ships. This bridge consists of eleven spans, which together provide as much waterway as the Golden Gate entrance to the bay. The spans of lesser height will be adequate for other than the highest ships.

The foundations will be of reinforced concrete, primarily of cellular construction, then filled solid, where the loads are concentrated. The footings would, of course, rest upon solid stratum below the silt bottom of the bay. The exact nature of the stratum will have to be ascertained as is customary in all such construction work.

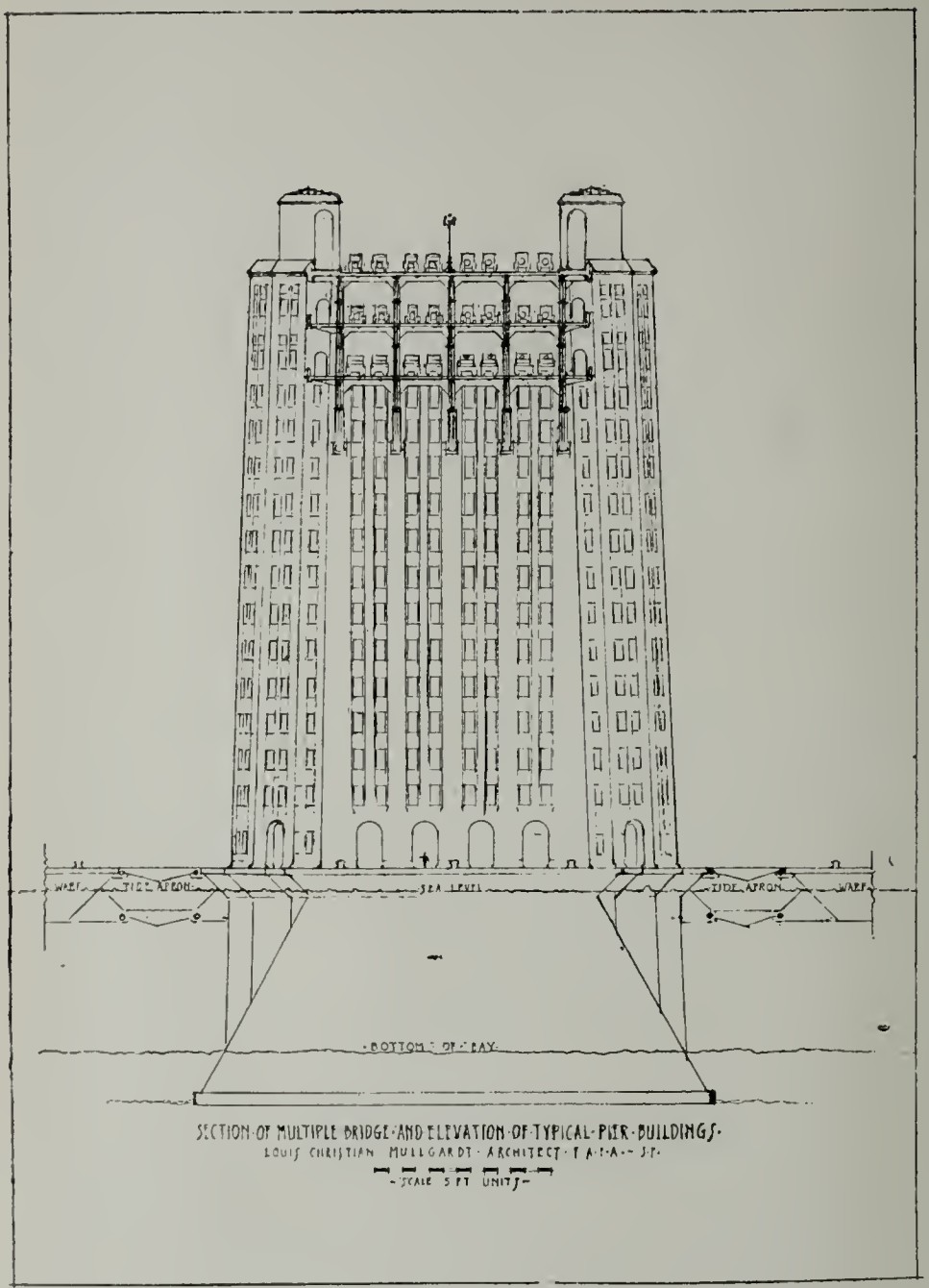
Statements frequently heard that "it will not be possible to find adequate stratum under the bay, on which to support a bridge" are only conjectural; based entirely on worthless opinion. The probabilities are that the channel of the bay extends over an accessible solid stratum. There are no "lot line limitations" to restrict the extent to which footings may be spread. A clay or sand stratum situated below the bay silt, will provide positive, permanent support for a bridge; rock stratum is not necessary. There are but few places on this planet which do not insure adequate support for anything which man is able to build, and those places are in tar lakes and volcanoes.

The foundations extend 10 feet above high tide; from that level, all structural material will be of thoroughly protected steel, to support the bridge and live loads, also, the various requirements of first class buildings; (the piers themselves being buildings, in addition to bridge supports).

This form of bridge construction is serviceable for every desirable purpose; its realm of utilization is unlimited and most economical. To ultimately convert the bridge supports into housings, admirably suited to every conceivable purpose, is not only feasible, but logical. It can be done at minimum cost. The ground areas upon which they stand do not require to be purchased; the foundations are built; they rest upon earth which is tax free. The steel frame work is practically complete; The actual cost of such buildings is determined by walls, windows, doors, partitions, elevators, plumbing, electric wiring and whatever else shall be required to meet the lessee's needs.

The superior advantages of such buildings is unparalleled; built at minimum cost, the rental rates may be placed at a low figure. The structures would have unrestricted light and air, from all directions. They would be directly connected with State highways above; also Pacific ocean steamers and smaller craft, which moor at their base. They may be palatial hotels, or great factories, as distances are 500 feet between piers. A multiple of highways, supported on many great buildings, are perhaps, new in the world for which someone great and enormously rich, may wish to supply the capital, after the way is first made clear of all obstructions! We can get what we need and want, provided we can agree upon what we need. A bay bridge will constitute our greatest asset; it will make the bay region world famous as nothing else would. A structure of this type and enormous size exceeds by far all else ever done. To build the most comprehensive, single structure in history is the enviable privilege of California.

Very naturally elements, affording opportunities for objections, are present. Such objections are frequently magnified beyond their actual worth; they serve to defeat great projects. One objection offered is that bridge foundations accumulate silt, periodically. That is true in respect to all bridge piers. The silt should be removed, which is not too



PROPOSED MULTIPLE BRIDGE, SAN FRANCISCO BAY
LOUIS C. MULLGARDT, ARCHITECT

difficult with modern machinery. Bay silt serves to make excellent fill and fertilizer around the bay.

The War Department's objection to a bridge north of Hunters Point, "that the fleet might be bottled up, when at anchor," is a remote possibility with a multiple arched bridge, which leaves a loophole of escape somewhere for our warships to beard and brave the enemy. We do not want to see our navy bottled up; and, by the same token, we do not want the War Department to keep our San Francisco bottled up.

The question today is, will the War Department keep San Francisco permanently insular? San Francisco has been and still is suffering from ennui ever since the 1915 Exposition. She is moving forward but not keeping step with modern times.

Objection to a bay bridge is also presented by Oakland interests, which contend that it "will transfer a lot of east-bay trade to San Francisco." Highly developed intercommunication is known to be the foundation of mutual progress elsewhere. A perfect highway between the Bay Cities will lead to mutual progress. Oakland's progress began when San Francisco's business was buried in ashes.

Railway corporations are accused of being opposed to a bay bridge. That has been officially denied on the most logical basis that a bridge across the bay will be of immeasurable benefit to the entire State of California and therefore to all transportation companies within the State. It is, nevertheless, possible that certain transportation companies are secretly opposing the construction of a bridge. Such opposition would be far-reaching, if it exists. It is not here proposed to incorporate railway transportation on the bridge, even though possible. Railway terminals on both sides of the bay are accessible from every direction; it is best to preserve the present distribution of terminals within the several communities, if for no other reason than to avoid traffic congestion which invariably accompanies terminal concentration.

A bridge of this type will augment portage facilities immeasurably on both sides of the bay. Oakland will then have docking facilities (as shown on the map, herewith) the aggregate of which may be more than doubled. Shipments will be direct from bridge pier and causeway landings, the latter being accessible to automobiles.

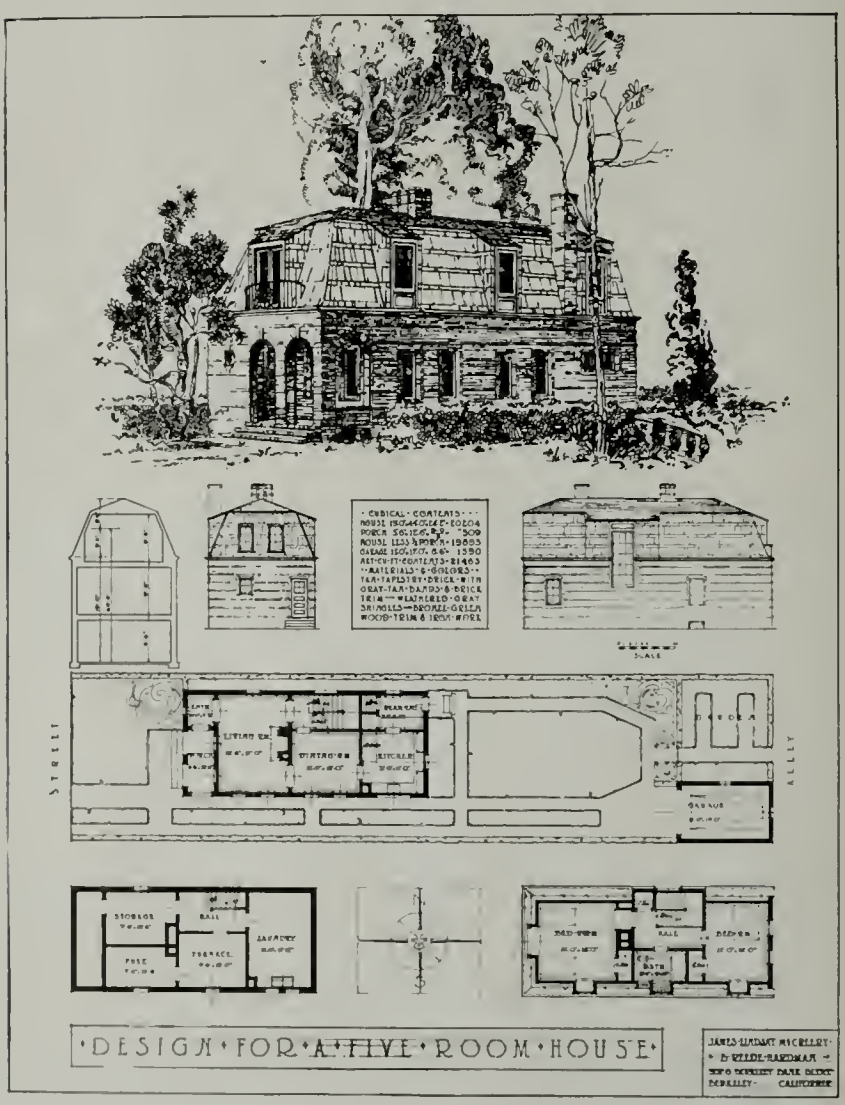
San Francisco streets run diagonally to the axis of the bridge where shown. That admits of approaches in every direction. These streets are most advantageously placed, for radiating traffic.

The East-bay approach is situated to the south of the estuary, to avoid interference with all ferry routes and other shipping interests, more than 75 per cent of it being situated north of the bridge. The bridge docks establish a continuation of existing shore docks on both sides of the bridge.

The mileage distance between the San Francisco and Oakland city halls via this bridge route is less than it would be via Goat Island. Berkeley and Richmond would be nearer to a bridge if projected via Goat Island, whereas, Alameda, East Oakland, San Leandro, Hayward and other localities would then be more remote.

South of Market street, San Francisco, is most adaptable to traffic distribution; the streets are broad and conditions are flexible, the land being level. To the north of Market street, existing congestion of arteries would necessitate many alterations and the acquisition of private properties. The topography westward is hilly and not as well suited to the distribution of traffic radiation as the arteries and flat topography to the south of Market street.

Finally, this bridge offers greatest assurance against earthquakes. It provides admirable aeroplane and dirigible stations; the former housed within the causeways. It will carry power cables and water mains at accessible points. It is safest against total destruction by explosives; it is the most certain type of bridge, whereby to insure permanent use of the Bay Channel. It is most amenable to new requirements. It is the most beautiful type of bridge conceivable. And it is certain to prove a profitable venture for its builders.



CHICAGO TRIBUNE COMPETITION PLAN FOR SMALL HOUSE
J. H. McCreery and B. R. Hardman, Architects

DESIGN of TALL BUILDINGS for RESISTANCE to EARTHQUAKE STRESSES

By
L. H. NISHKIAN C.E.

EARTHQUAKES and hurricanes occur with such frequency that it is always timely and of interest to discuss their effect on buildings.

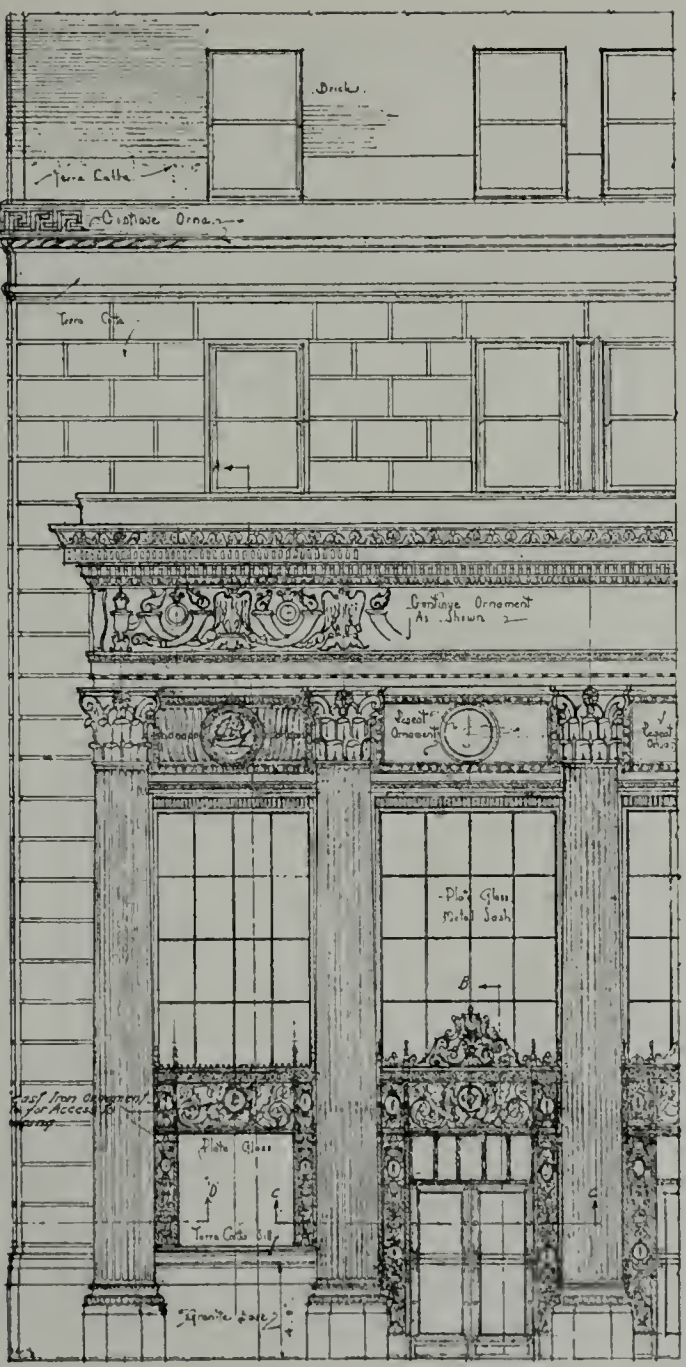
Wind storms occur with more or less regularity in all localities; consequently their effect on buildings has been analyzed and the necessary stresses have been provided. It is only in recent years that modern tall buildings have been built in active earthquake zones, namely on the Pacific Coast and in Japan. It is in these places therefore that one should look for the development of the earthquake-proof building.

In California, scientists and engineers have given much thought to earthquakes and the writer believes that we are very near the time when these efforts will be crystalized into a definite application to buildings so that they can be made earthquake-proof.

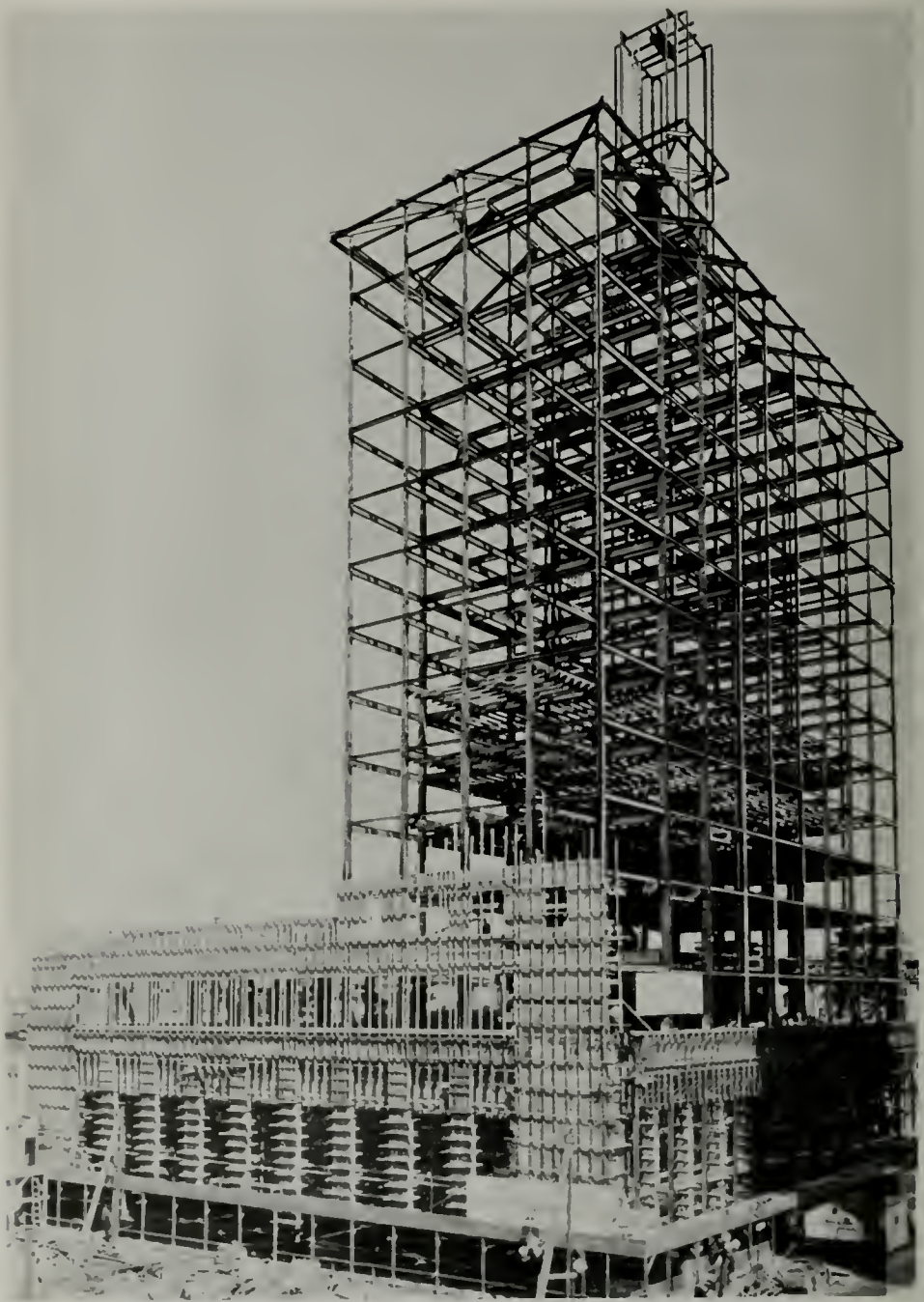
At the present time the San Francisco Building Code does not require that special attention be given to the design of buildings relative to earthquakes. It is assumed by some that a building designed to take a heavy wind load, will also resist earthquakes. There is a fundamental difference between the respective effects of wind and earthquake which makes such an assumption irrational. A wind force is limited in magnitude and is applied to the above ground portion of a building and continues to act independent of how much the building may yield and the more the building yields, the greater the dynamic effect. An earthquake force is applied to the underground portions of a building. The magnitude of the force is unlimited, producing, however, a limited movement in the building.

The dynamic effect on a structure is dependent upon the elasticity of the structure, i.e. the more easily a structure is able to follow the movement resulting from the earthquake, the less are the stresses in that structure. If the building deflects an amount equal to the one-half amplitude of the earth movement, the forces produced by the earthquake are reduced to a relatively small value. It is true that the same kinds of stresses are produced by earthquakes and winds but there the similarity ends. Both wind and earthquake produce heavy bending in columns and beams, the maximum stresses occurring very likely at the junctures of the beams and columns after the walls have failed. In earthquakes very heavy shears are also produced in columns and walls. An example of the difference in action of wind and earthquake forces is afforded by the behavior of the Ferry tower at San Francisco during the 1906 earthquake. This tower was built with steel columns braced by steel X-bracing. These X-braces proved to be too rigid, resulting in snapping off of the connection during the 'quake. This gave sufficient yielding to the structure to prevent further serious damage. If the X-bracing had been pulled out by a wind force, the likelihood is that the tower would have collapsed.

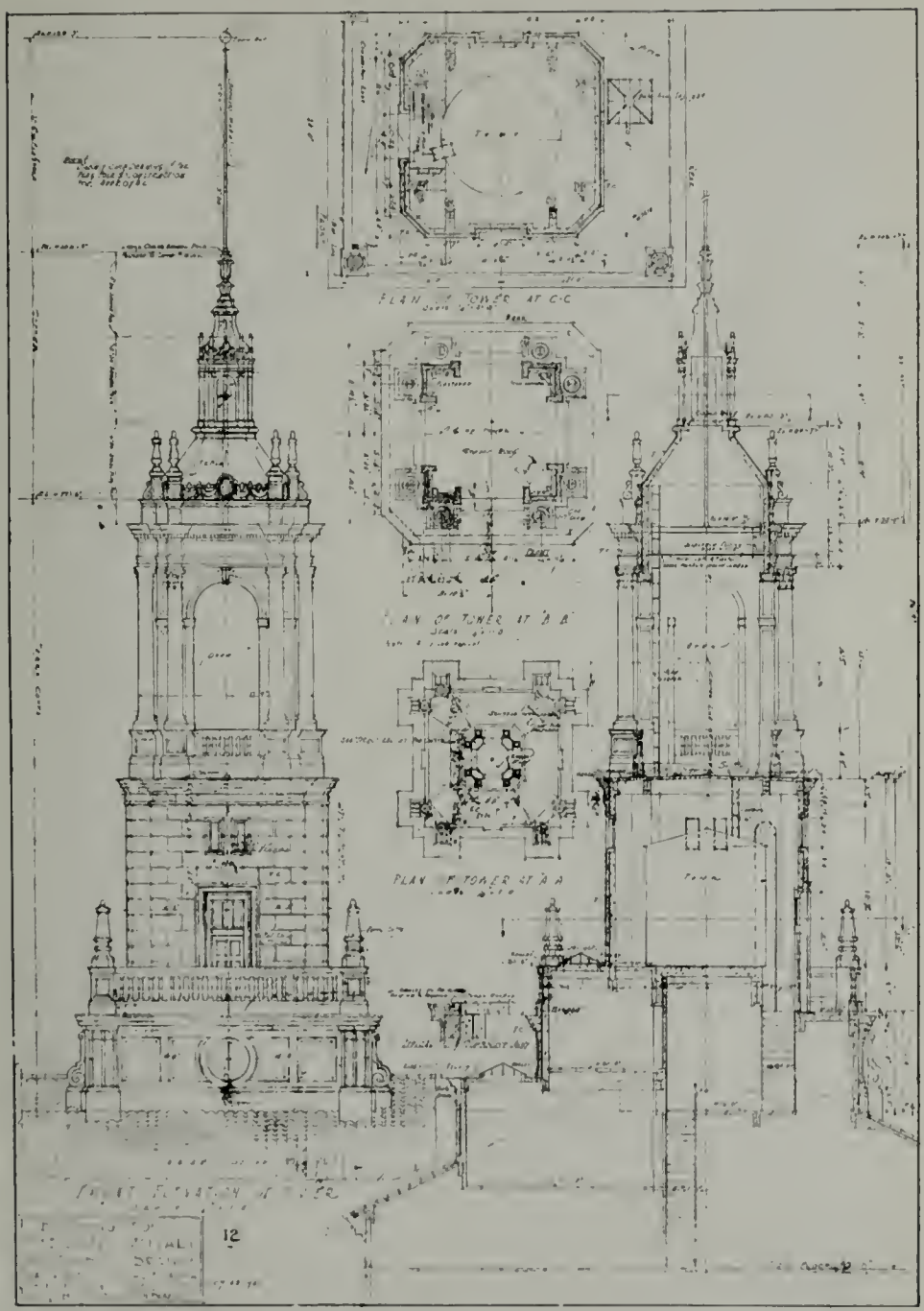
BANK OF ITALY, SAN JOSE
H. A. MINTON, ARCHITECT



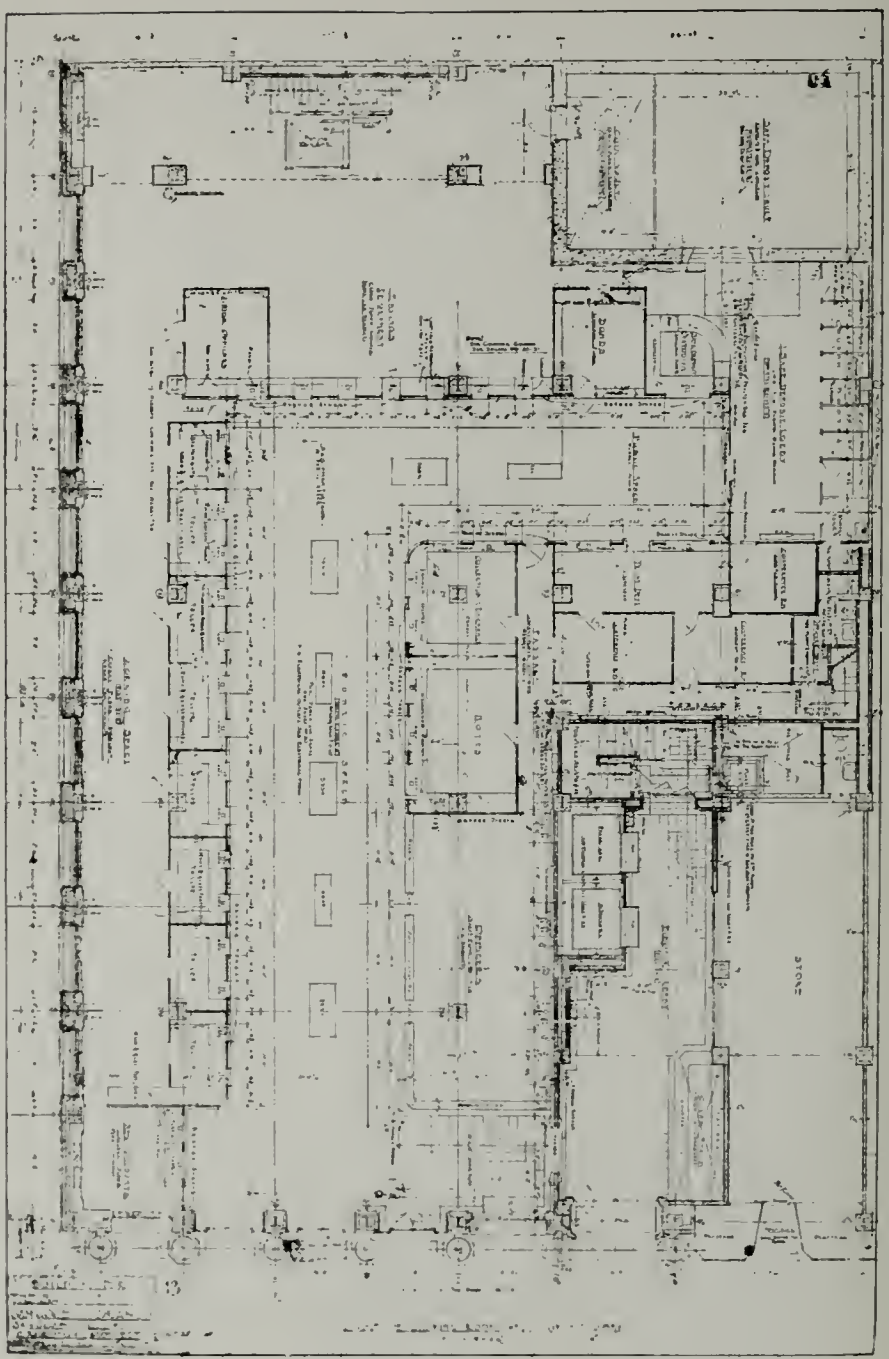
ENTRANCE DETAIL, BANK OF ITALY, SAN JOSE
H. A. MINTON, ARCHITECT



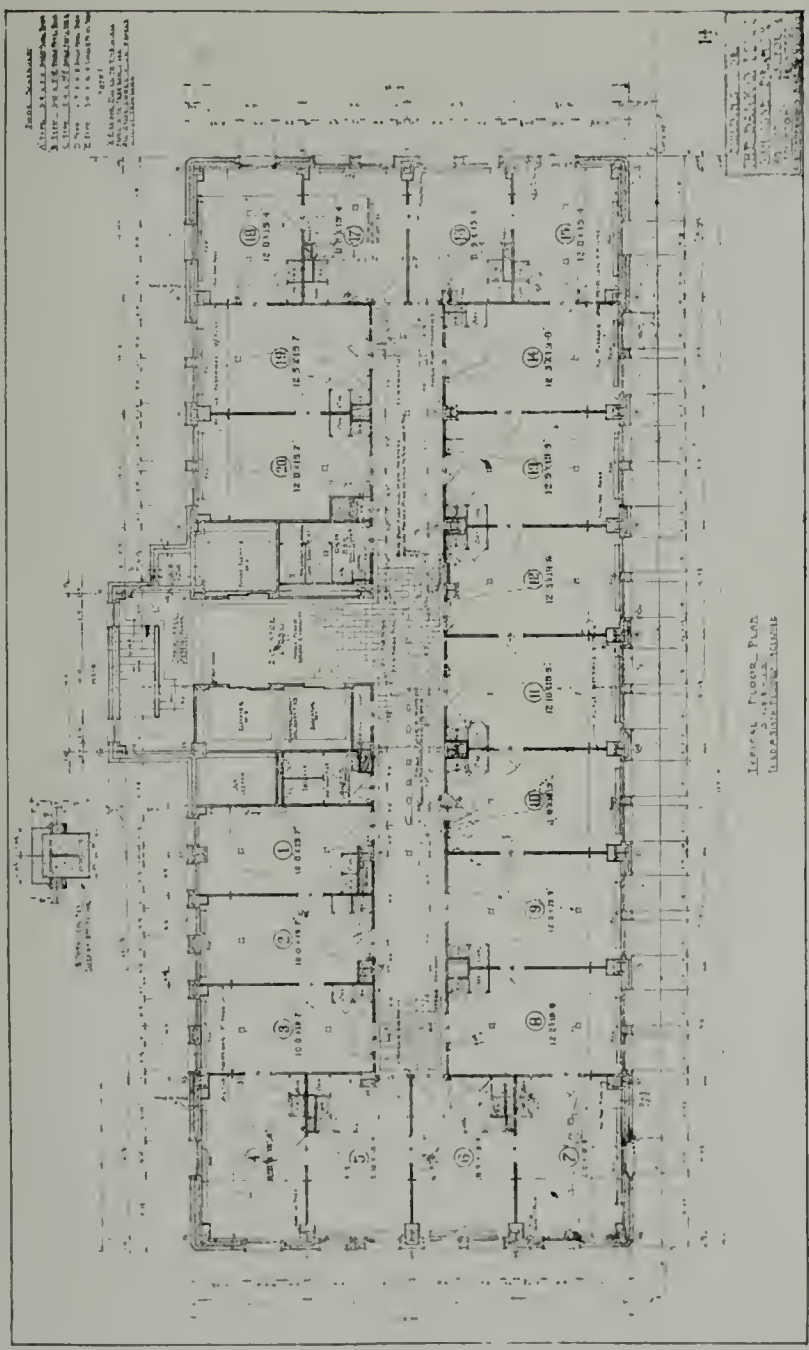
STEEL FRAME, BANK OF ITALY BUILDING, SAN JOSE, CALIFORNIA.
H. A. MINTON, ARCHITECT L. H. NISHKIAN, ENGINEER



ELEVATIONS, BANK OF ITALY, SAN JOSE
H. A. MINTON, ARCHITECT

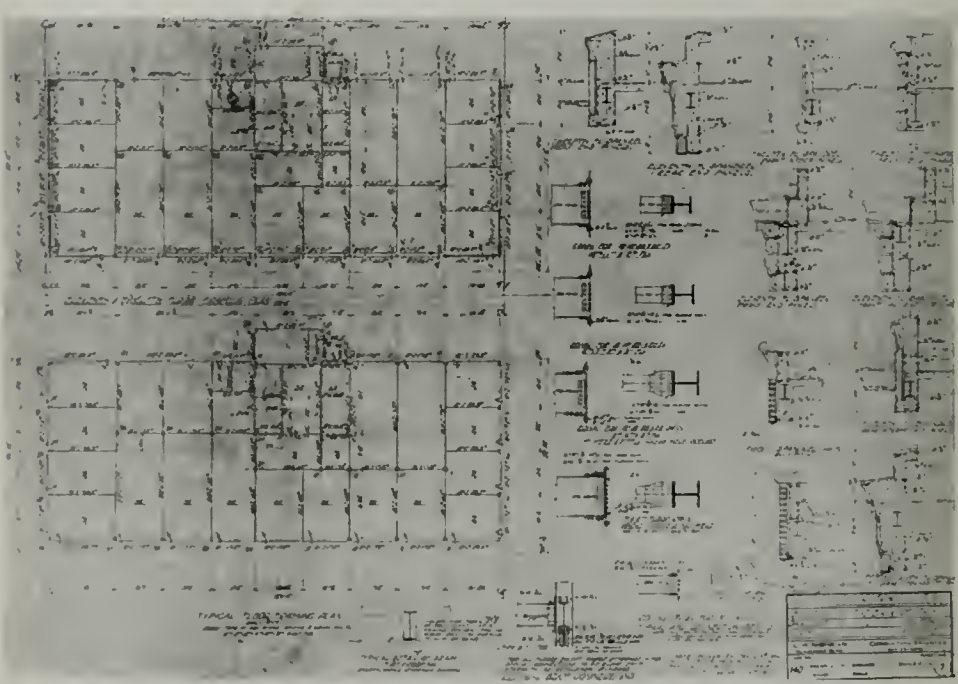


PLAN OF BANKING ROOM, BANK OF ITALY, SAN JOSE
H. A. MINTON, ARCHITECT



TYPICAL OFFICE PLAN, BANK OF ITALY, SAN JOSE
H. A. MINTON,
ARCHITECT

BALCONY IN MAIN BANKING ROOM, BANK OF ITALY, SAN JOSE
H. A. Minton, Architect



TYPICAL FLOOR FRAMING PLAN, BANK OF ITALY, SAN JOSE
L. H. Nishkian, Structural Engineer

From the foregoing one may conclude that in general, the best design to resist wind forces would be one which would have strong and rigid joints or X-bracing where conditions permit; whereas the best design to resist earthquake forces, would be one which would have strong but yielding or flexible joints.

The ideal wind-proof design of a building is a comparatively easy matter. In designing a frame with yielding and flexible joints resisting earthquakes, one has to overcome very complex problems. In a tall building the structural frame is usually surrounded and cloaked by concrete, brick, terra-cotta, stone or glass, all comparatively less elastic than the structural frame. If the frame is made flexible, then the walls of the building, being comparatively less flexible, will take the brunt of the shock and the benefits of the flexible frame do not come into play until the walls are ruptured. The building is structurally sound but heavily damaged.

One solution to this problem would be to make the walls strong enough to pull the building with the earth movement. Another solution that suggests itself is to provide a high first story, making the first story columns slender enough to take a horizontal movement of about one and one-half inches without overstressing them, and disconnect entirely the first story wall columns from the surrounding walls. This would necessitate a horizontal wall joint just below the second floor line. On the second floor the beam connections to columns would have to be made strong but flexible enough to allow the yielding of the first story columns. The force producing this horizontal deflection is developed by the inertia of the building above. The building should therefore have connections throughout, strong enough to resist such a force. A structural design as outlined permits the frame to yield. The first story walls, of course, would have to be strong enough to withstand the earthquake in themselves.

If the first story is less than the necessary height, then the second story connection of the beams to the column can be made to approximate a hinge in effect, the columns running to the next floor above without splicing. For tall buildings, the columns in the first story are so heavy compared to the beams that a standard web connection will serve the purpose in a steel frame. In a concrete frame a hinged joint may be used or other methods can be developed, such as using very flat beams or flat slab construction with an open joint around the columns on the second, and if necessary, the third floor.

The new Bank of Italy building in San Jose has been designed as outlined above. It is a steel frame structure twelve stories high (in effect about fifteen stories). The frame and connections were designed to resist the usual 15 lbs. per sq. ft. wind pressure. The first story of this building is unusually high (34 ft.) thereby providing the desired flexibility to the first story columns. All the beam connections were made the necessary strength but were kept within the depth of the beam. The high first story will provide considerable flexibility even to the street front walls so that, although no horizontal joint was provided below the second floor, it is not likely that any damage will occur at this point except in the event of an extremely heavy shock. It might be noted that the building has a brick and terra-cotta exterior which materials are anchored to the concrete work by means of dovetail anchor slots set in the concrete walls.

Where should one design a building with heavy walls and rigid joints and where should one consider disconnected first story wall columns and high first story flexible columns? The first method is undoubtedly better if practically feasible in any particular case. A few figures on a simple type of building will give a conception of the magnitude of the forces involved and enable one to give an approximate answer to the above questions.

Let us take a building 50 x 100, ten stories high and for simplicity we will assume each story 10 ft. high. The floors including partitions will weigh about 100 lbs. sq. ft of floor and the walls will weigh about 80 lbs, per sq. ft. of wall. The total weight of the building above the first floor will be:

Floor = 10 x 100 x 5000 sq. ft.	=	5,000,000#
Walls = 100 x 300 x 80	=	2,400,000
		7,400,000#

Assuming a horizontal acceleration of six feet per second (a severe assumption), the horizontal force applied to the section of the building just above the first floor will be 6/3212 or say 1/5 of the total weight or 7,400,000/5 = 1,480,000#.

Using a shearing stress of 250# per sq. in., we require a net area in the wall of 1,480,000/250 = 5920 sq. in.

The bending moment at the same section will be 1,480,000 x 50′ = 74,000,000′# or 37,000,000′# on each wall. If the end walls are solid then 370,000,000/50x⅔ = 1,110,000# will be the approximate vertical load at each corner due to this moment. Using a compressive stress of 750# per sq. in. above the dead load stress, it will require 1,100,000/750 = 1467 sq. in. of wall area. If the wall is not solid as that happens in an actual building, the moment stresses will increase very rapidly. If we could use solid walls it would be very easy to provide the necessary sections as indicated above but a useful building cannot be built with solid walls. The sections required are not so large but they may be taken care of in the usual type of building if certain architectural sacrifices are permitted. The lower walls will have to be made from 10 to 18″ thick, solid panels being provided wherever possible. Solid masonry walls should also be used where permanent partitions occur.

It will be noted that it is assumed that the entire force is applied to the masonry walls. The reason for this is that the walls are comparatively so much stiffer than the structural frame of the building, that the frame will get practically no stress until the walls have failed. It is for the same reason that this type of frame has not entered into the above calculation. No definite height limit can be placed for the above method for resisting earthquake forces but it is the writer's opinion that generally eight to twelve stories will be the practical limit and perhaps a little higher under very favorable conditions. Among the materials generally used for walls, a heavily reinforced concrete wall is undoubtedly the most suitable to resist tension, compression, shearing and torsional stresses. Brick work cannot be recommended on account of it very low tensile strength. Brick laid in cement mortar could probably be used for one story or two story buildings only. If some practical means were developed to embed steel in brickwork, both vertically and horizontally, then it might be used in higher buildings.

If the building under consideration is so high that it is not practicable to make the walls strong enough, then one must take advan-

tage of the fact that no matter how rapid the vibration or the acceleration of the ground, the earth movement on firm ground is limited. This is usually in the neighborhood of an inch in a severe earthquake. In San Francisco in 1906 it is given as approximately 3/4". On soft and made ground the amplitude is much greater but the acceleration is correspondingly less. It is the writer's opinion that buildings on made ground should be limited in height to eight or ten stories and the footings so thoroughly tied together as to constrain the building to act as a unit.

Vertical movements also occur during an earthquake but they usually are considerably less than the horizontal movements. They produce the same stresses as the horizontal force but being comparatively less, need not be considered, at least until we have more definite information. If the building is raised or dropped as a unit, no serious stresses will result as the usual structural design will take care of such conditions.

In conclusion the writer will repeat the following recommendations in the design of tall buildings to make them reasonably earthquake proof:

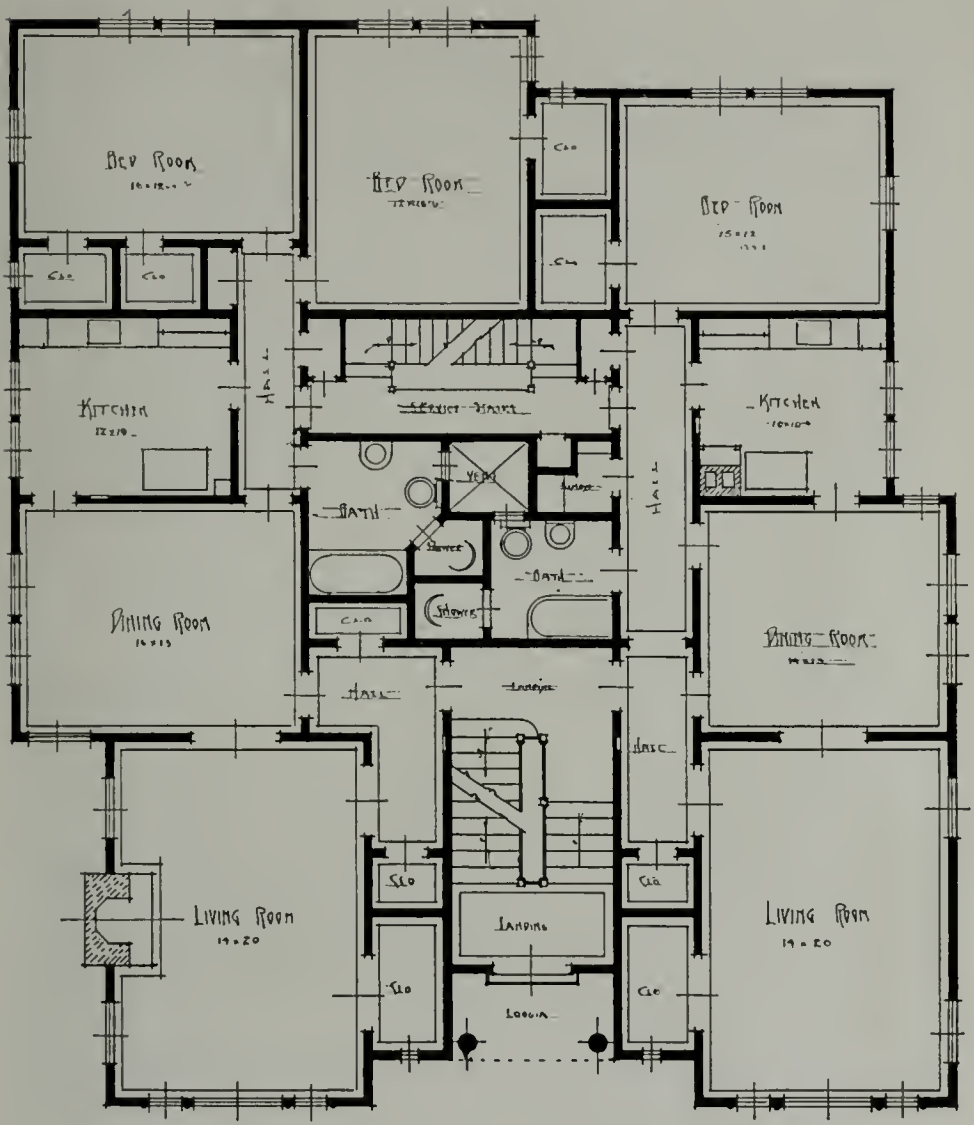
1. For buildings one or two stories high, brick walls laid in cement mortar with tie rods may be sufficient though reinforced concrete walls would be much safer.

2. For buildings up to ten stories high, a reinforced concrete or structural steel frame with joints strong but made as flexible as possible. The walls should be heavily reinforced concrete varying in thickness from 18 to 6 inches. Wherever possible, interior partitions should be made of reinforced concrete.

3. For buildings more than 10 stories high, a very high first floor (25 feet for a steel frame, 35 feet for a reinforced concrete frame) should be provided. All joints should be made strong but flexible. The curtain walls should be reinforced concrete and the first story wall columns should be disconnected from the walls in such a manner as to permit a horizontal movement of this column of about two inches.

4. For made ground all component parts of a building should be thoroughly tied together to insure action as a unit. The height of the building on such ground should be limited to eight or ten stories.

APARTMENT HOUSE FOR N. R. DOUGLASS, BERKELEY
LEONARD H. FORD,
ARCHITECT



—Second Floor Plan—

Leonard H. Ford
Architect

APARTMENT HOUSE FOR N. B. DOUGLASS, BERKELEY
LEONARD H. FORD, ARCHITECT

LANDSCAPE ARCHITECTS FAVOR CREATION of STATE PARK COMMISSION and PARK DIRECTOR

THE Pacific Coast Chapter of the American Society of Landscape Architects is taking a deep interest in three bills now before the California State Legislature and which provide for legislation that is calculated to be of inestimable value to the Commonwealth. Another organization that has indorsed the bills is the Save the Redwoods League besides not a few prominent citizens in the Northern and Southern Sections of the state. The following is a summary of the three bills all of which deserve the unqualified support of those interested in a State Park system under proper supervision.

Senate Bill 439 creates a central State Park Commission of five, without salary, and empowers this commission to appoint a salaried State Park director and other employees. All parks, public camp grounds, monument sites, landmark sites, and sites of historical interest owned by the State of California, except a few parks within incorporated cities, are to be under their jurisdiction. The State Park Commission will have the power to acquire park properties by purchase or condemnation and to make rules and regulations for the protection and administration of parks. A revolving fund and a contingent fund are created, and $25,000 is appropriated for the purposes of the act.

Senate Bill 440 empowers the State Park Commission to make a survey to determine what lands are suitable and desirable for the ultimate development of a comprehensive, well balanced State Park system, and appropriates $25,000 for the purposes of the act.

Senate Bill 441 provides for the issuance of "California State Park Bonds" to the amount of $6,000,000, the proceeds to be used in acquiring State Park properties in accordance with the recommendation of the State Park Commission, with the proviso that State funds shall be used for this purpose only when they are matched by an equal amount from private gift or other outside sources. This act, if passed by the Legislature and signed by the Governor, will go before the voters of the State in November, 1928.

The bills in full are submitted herewith by the California State Parks Committee, Duncan McDuffie, chairman:

SENATE BILL 439—STATE PARK COMMISSIONS

The people of the State of California do enact as follows:

SECTION 1: Within thirty days after this act takes effect the Governor shall appoint five persons who shall constitute the State Park Commission. The term of office of appointed commissioners shall be five years, but of those first appointed one shall be appointed to serve one year, one two years, one three years, one four years and one five years.

The Commission shall select a chairman and vice-chairman from its members, and may employ a secretary and a state park director, who shall be the executive officers of the Commission, and other employees. It shall be empowered to contract for special professional services.

The Commissioners shall serve without compensation, but shall be reimbursed for actual expenses incurred in the performance of their official duties, out of funds of the State Park Commission.

SECTION 2: For the purpose of this act all parks, public camp grounds, monument sites, and land mark sites, and sites of historical interest, outside the limits of incorporated cities, heretofore or hereafter created or acquired by the State, or which are under its control, shall constitute the State park system.

SECTION 3: The State Park Commission shall administer, protect and develop the State park system for the use and enjoyment of the public, and it shall have power to establish rules and regulations for the government of the State park system, not inconsistent with law; to enter into contracts with cities, counties, or other subdivisions of the State, for the care and maintenance of park areas; with the approval of the State Board of Control to fix the salaries of the State Park Director and other employees of the State Park Commission; and to expend all moneys of the State Park Commission from whatever source derived for the care, protection, supervision, extension and improvement or development of the State park system.

It shall be the duty of the State Park Commission to gather, digest and summarize in its annual reports to the Governor of the State information concerning the State park system and the relation thereto of other available means for conserving, developing and utilizing the scenic and recreational resources of the State.

SECTION 4: The State Park Commission shall have the power, right and authority within its discretion to receive and accept in the name of the people of the State of California any gift, devise, grant, or other conveyance of real property or any interest therein, including water rights, roads, trails and rights of way, to be added to or used in connection with the said park system; to receive and accept by gift, donation, contribution, or bequest money to be used in acquiring real property or any interest therein; or improving the same, as a part of or in connection with the State park system; or for any of the purposes for which this Commission is created; also to receive and accept personal property in the same manner for purposes connected with said park system. The State Park Commission may acquire by purchase or by condemnation proceedings brought in the name of the people of the State of California such real and personal property or any interest therein as the Commission shall deem necessary or proper to the extension, improvement or development of the State park system.

SECTION 5: Contracts may be entered into between the State Park Commission and cities, counties and other political subdivisions of the State for the care, maintenance and control for the purposes of the State park system by either party to such a contract of lands under the jurisdiction of the other party to such a contract and the expenses of such care, maintenance and control may be paid from the general fund of such city, county or other political subdivision of the State or from the funds of the State Park Commission, as the case may be.

SECTION 6: It shall be the duty of the State Park Commission to protect the State parks from damage and to preserve the peace therein.

Any person who violates the rules and regulations established by the State Park Commission shall be guilty of a misdemeanor and upon conviction shall be punished by imprisonment in the county jail not exceeding ninety days, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

The Commission shall have the power to confer on the Director of State Parks and such other employees as they may designate, the full authority and powers of peace officers for said parks.

SECTION 7: There is hereby created the State Park Commission contingent fund. All moneys collected or received by the State Park Commission from gifts, bequests, or from any source whatever except appropriated moneys shall be deposited in the State treasury to the credit of said contingent fund. All moneys so deposited shall be used for the care, maintenance, improvement of and/or additions to the State park system.

SECTION 8: There is hereby created a revolving fund for the use of the State Park Commission. With the approval of the State Board of Control, the California State Park Commission may draw from the funds appropriated or the contingent fund herein provided, without first submitting vouchers and itemized accounts to a sum not to exceed five thousand dollars to be used for cash advances, which sum must at any time upon demand of the State Board of Control or State Controller be accounted for by the said Commission.

SECTION 9: Out of any money in the State treasury not otherwise appropriated there is hereby appropriated the sum of $25,000 for the purpose of this act.

SECTION 10: If any section, subsection, sentence, clause or phrase of this act is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of the act. The legislature hereby declares that it would have passed this act with each section, subsection, sentence, clause and phrase

thereof, irrespective of the fact that any one or more section, subsection, sentence, clause or phrase be declared unconstitutional.

SECTION 11: All acts or parts of acts inconsistent with this act are hereby repealed.

SENATE BILL 440—A SURVEY OF SITES

The people of the State of California do enact as follows:

SECTION 1: The State Park Commission is hereby authorized and directed to make a survey to determine what lands are suitable and desirable for the ultimate development of a comprehensive, well-balanced State Park System, and to define the relation of such a system to other means of conserving and utilizing the scenic and recreational resources of the State; to make a report embodying the results of the survey; to make recommendations regarding the means by which such a park system can be acquired. Said report and recommendations shall be filed with the Secretary of State on or before December 31, 1929.

SECTION 2: The State Park Commission is hereby authorized to receive and accept at any time, by gift, donation, contribution, or bequest, money to be used for said survey.

SECTION 3. Section one of an act entitled "An act relating to the acquisition by the State of forest land for park purposes; authorizing the State Board of Forestry to make a survey and report on all suitable forest park sites in the State; providing a method for procuring such parks by purchase, gift, devise, donation or condemnation proceedings, or proceedings in eminent domain and for procuring money for the acquisition and maintenance thereof, and prescribing the procedure therefor; reserving certain rights to the owners of land adjacent to the lands so acquired; providing for assistance by the Attorney General; vesting the State Board of Forestry with jurisdiction and control of such parks after their acquisition by the State and of any funds provided for the purchase or maintenance thereof; providing for the expenses of said board in carrying out the purposes of this act; and prescribing the procedure for carrying out the provisions of this act, "approved May 29, 1923," providing for such a survey by the State Board of Forestry, and that portion of section two of the same act pertaining to such a survey by the State Forestry Board, are hereby repealed.

SECTION 4. Appropriation is hereby made of $25,000 for the purposes of this act.

SENATE BILL 441—BONDS FOR NEW PARKS

The people of the State of California do enact as follows:

SECTION 1: In accordance with the provisions and subject to the limitations hereinafter in this act set forth, the State Park Commission of the State of California is hereby authorized and directed to acquire as a part of the California State park system such lands and other properties as in the judgment of the State Park Commission are desirable for that purpose. For the purpose of meeting the cost of such acquisition, the State of California shall incur an indebtedness in the manner provided by this act in the sum of six million dollars.

SECTION 2: (Directs State Treasurer to issue bonds as authorized and contains regulations regarding rate of interest, maturities, etc.)

SECTION 3. (Provides method of paying interest.)

SECTION 4. There is hereby created a State park finance board, composed of the Governor, State Controller, State Treasurer, chairman of the State Board of Control and chairman of the State Park Commission, all of whom shall serve thereon without compensation and a majority of whom shall be empowered to act for said board. Said State park finance board shall from time to time, so long as the bonds herein authorized or any part of them remain unsold, determine when the same or any part thereof shall be sold, the number to be sold, and the interest rate thereon, which rate shall be fixed by the said board according to the then prevailing market conditions, but shall at no time exceed six per cent per annum, and the determination of said board as to the rate of interest shall be conclusive as to the then prevailing market condition. When requested by said board, the State Treasurer shall prepare such number of bonds as may be requested, inserting upon the face of each of said bonds such interest rate as said board has determined and authorized, and when so prepared said bonds shall be sold and delivered as in this act provided.

SECTION 5. When the bonds authorized by this act to be issued shall have been signed, countersigned, indorsed and sealed, as in this act provided, the State Treasurer shall from time to time sell such number thereof as the said State park finance board may direct, to the highest bidder for cash. The State park finance board shall from time to time issue such direction to sell such bonds as in the opinion of a majority of said State park finance board shall be deemed necessary or expedient; provided, that said State park finance board shall issue to the State Treasurer such

direction immediately after being requested so to do through and by resolution duly adopted and passed by a majority vote of the State Park Commission. Such resolution of the State Park Commission shall specify the amount of money which in the judgment of said State Park Commission shall be required at such time and the said State park finance board shall direct the State Treasurer to sell such number of bonds as will at the par value thereof equal said amount of money so required, according to such resolution of the State Park Commission. Each direction of the said State park finance board requiring the State Treasurer to sell bonds as herein provided shall specify the project for which the proceeds of the sale of said bonds shall be used; and there shall be created in and for the State Treasury and shall be maintained therein so long as this act shall remain in force, a separate fund for each project to which proceeds from this bond issue are applied. In the case of each sale of said bonds directed pursuant to resolution of the State Park Commission the State park finance board shall direct the State Treasurer to deposit the proceeds of such sale in the State Treasury to the credit of the fund specified in each case by the State Park Commission.

The State park finance board shall, however, direct the sale of bonds and deposit of the proceeds of the sale thereof to any specific fund for the acquisition of park lands, only when there has been deposited with the State Treasury a fund from private gift, city or county appropriation, or from some source other than the State of California, which shall be equal to the amount to be realized for such project from the sale of bonds as herein provided; except that the State finance board shall authorize the sale of bonds for the specific purposes indicated in this act to carry out any park project for the acquisition of lands and properties under which it can be shown to the satisfaction of the State park finance board that half the total value involved in the project has been donated from sources other than the State of California in the form of gifts of land, timber or other properties, as well as sums of money.

SECTION 6. Moneys shall be drawn from the California State park fund of 1927 for the purposes of, and specified in, this act upon warrants duly drawn by the Controller of the State upon claims made by the State Park Commission and approved by the State Board of Control.

SECTION 7. There is hereby appropriated from the general fund in the State Treasury such sum annually as will be necessary to pay the principal of and interest on bonds issued and sold pursuant to provision of this act as said principal and interest become due and payable.

SECTION 8. (Regulations regarding payment of principal and interest.)

SECTION 9. (Appropriates $10,000.00 out of the general fund for printing, lithographing and selling of bonds.)

SECTION 10. (Directs Controller and State Treasurer to keep account of proceedings under this act to render report to the Governor and to the legislature.)

SECTION 11. This act shall be known and may be cited as the "California State Park Bonds Act of 1927."

SECTION 12. This act shall take effect upon the adoption by the people of the State of California approving, adopting, legalizing, validating and making fully and completely effective this act.

FIG. 1 STAIRWAY IN CATHEDRAL OF ROUEN

FIG. 2—CHURCH OF VILLEMAUR

SOME FRENCH STAIRWAYS

By
E. M. DASSETT.

OF ALL the problems with which one is confronted when building, the stairway is one of the most difficult. Its place, construction, lighting, and decoration are equally important not only for itself, but for the rest of the building. Each must be carefully considered in order that the stairway be safe, comfortable, convenient and beautiful.

It was not until comparatively recent times that the interior stairway became a monumental or decorative element, for the Romans treated it as a need, fulfilled in the simplest manner. Their stairways except in theatres and amphitheatres were narrow and few in number. They used spiral as well as straight flights.

From the fourteenth century in France in great houses the stairway took on an appearance of luxury, but it was not until the seventeenth and eighteenth centuries that the most logically beautiful developments of it were reached. Nothing is more noble in effect than a great eighteenth century staircase with its spacious well in the center which gives a view from top to bottom.

The best disposition seems to be a hall, centrally located in big houses, with stairway in it or beside it. As it is the one means of communication with the upper floors, it should be easily accessible from all parts of the house.

Its size should be proportional to the rest of the house and to the use to which it is put. Charles-Antoine Jombert in his, "Architecture

The pictures accompanying this article released by special permission of the Archives Photographiques, Paris.

FIG. 3—HOSPITABLE AND COMFORTABLE

FIG. 4—A REALLY BEAUTIFUL RAILING

FIG. 5—SHOWING CAREFUL DETAIL

FIG. 6—A DESIGN BY GABRIEL

FIG. 7.—AN EIGHTEENTH CENTURY STAIR RAIL

FIG. 8—ANOTHER VIEW OF EIGHTEENTH CENTURY RAIL

Moderne," 1764, says that the least width a stairway can have is four feet, which dimension he has established to allow two people to pass one another without being inconvenienced. We have cut down considerably his noble proportions, but we still can see his logic and would probably follow his example were it not for the necessity of economy.

As to the form, the more sober it is the better. In the middle ages the stairway was almost invariably round. Some of the later ones were extremely monumental and beautiful: witness Chambord, and Blois. But they are never equal in effect of spaciousness to the great open stairway of later date.

Light equally distributed is absolutely essential. In fact there should be more in the stairs than in any other part of the house, because there is more danger of falling. There should be as much light on the flights as on the landings, and it should come preferably from more than one source, so that the tread and riser may be equally well lighted. Windows naturally are subjected to the need of the stairs as well as to the exterior design, and so give rise to one of the most difficult problems to solve beautifully. Stairs which cross windows are not logical. Certain stairways, as at Maisons-Laffitte, lighted from above are very successful. Other less beautiful and consequential examples are found in the southern provinces.

Although susceptible to the greatest richness in decoration, the principal merit of a stairway should come from the harmony of its proportions and the simplicity of its form. The railing may be of various materials according to the construction of the rest of the work. However, iron, easily worked, is more solid and takes up less room than most other materials. It is also well suited to the complicated curves which a continuous handrail necessitates.

Various curiosities in the construction of stairways are described by Violet-le-Duc in his "Dictionnaire." One type was mounted on a pivot and when turned made the rooms which it served inaccessible in case of attack. Another one consisted of two flights which, intertwined, allowed people to go up and down at the same time without being seen by one another. Chambord possesses the largest and most remarkable stairs of this type. However amusing and probably necessary these unusual stairways may have been, security from accidents, convenience and beauty should be the guides in the construction of a stairway.

The accompanying illustrations show various types of stairways. Number one is flamboyant gothic from the cathedral of Rouen. Although very pleasing it is less masterfully done than some of the circular stairways of the same epoque. The handrail so beautiful in tracery is too high for the steps.

The second, visible through its screen, dates from 1521 and is in the church of Villemaur. It is of wood magnificently sculptured. How hospitable and comfortable number three looks. Its steps are broad and low, the landing sizeable. The various objects on its walls and the chest on the landing all contribute to its charm.

If the handrail and general disposition of Fig. 4 were not so beautiful, one would not regret the badly placed nitch and ugly door which mar it. Its gradual and continuous ascent, well lighted throughout, carries one along with ease.

Number five more carefully worked out as to detail, is less successful because its proportions are less harmonious. Its first flight is too long and appears brusque notwithstanding the graceful curve of the first three steps which engage passage into it.

The hand of the master may be easily seen in the simplicity and the smoothness of number six. Gabriel designed it for the "Petit Trianon." Who would not be as happy as the last great inhabitant of that delightful little palace, to possess such a treasure?

In closing, numbers seven and eight of the same stairway built in the late Eighteenth Century show how admirably a running motif in iron lends itself to any slope or curve the handrail takes. Its scrolls and sinuous curves are adequately terminated by the sturdy newel composed of a console executed in iron also.

SKETCH FOR APARTMENT LIVING ROOM (See Page 53)
C. A. Meussdorffer, Architect

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If you seek versatility, go find an architect, for he must be an artist or his buildings would offend the eye, an engineer or they would crumble, a doctor or they would be unfit for us to live in, a lawyer or he would get his clients into trouble, and above all things he must be a gentleman or we would have nothing to do with him.—CARDINAL RICHELIEU.

ARE ROOFING TILES ANTIQUES?

During the progress of the great Florida building boom of 1925 and 1926 some owners of the more pretentious residential buildings, having grown sick of the newness of everything, were anxious to get some of the dignity of age into their buildings.

Some one originated the happy idea of importing old roofing tile from Havana. The prices offered were sufficiently high to induce owners of the old buildings in the Cuban city to unroof them, sell the tile to Miami dealers and reroof them with new tile.

One contractor in Miami, who brought in the equivalent of three carloads of Havana tile, had the further inspiration to import them as antiques, for antiques are admitted to this country free of duty! He succeeded in getting his shipment through, but only under protest and subject to final decision by the appropriate department at Washington.

But this contractor did not place his tile as securely as they had been placed in Havana, and on a certain September 18 they were scattered to the four winds. In the meantime the department at Washington solemnly decided that roofing tile cannot be imported as antiques. It is said that the Government is still trying to collect duty on the tile, which now are scattered about in various heaps of rubbish.

Moral: Roofing tile manufactured in the United States should be good enough for the most fastidious.

THEATRE EXITS ARE VITAL

During recent years several theatre fires have resulted in serious loss of life. In each case the lack of proper exits caused the greatest damage, rather than the fire itself.

Past occurrences tell us that when fire breaks out in a theatre panic invariably results. Individuals become wildly excited and are unable to restrain themselves in their great fear. In their haste to escape from the building the exits as a rule become crowded and jammed. This was vividly illustrated in the memorable theatre catastrophe in Montreal. It is in a disaster like this that emergency exits become important for they allow a separation and a diversion of the entire assemblage from the main entrance passageways.

Constant care must be given emergency exits to see that they are at all times clear and in proper working order. They should lead in a direct manner from the building to the open air so as not to confuse the occupants of the building in their haste to escape.

All of the recent theatre fires should be a lesson to every one whose duty it is to supervise the construction and use of buildings where large crowds assemble. A little added care and the expenditure of a few additional dollars will result in the saving of many human lives, each of which in itself cannot be valued in dollars and cents.

The usual city plan reminds one of the old-fashioned days when a boy grew faster than the family purse could supply properly fitting clothes. The city plan hangs too high above the shoetops on the long legs of many a sturdy adolescent town.—WILLIAM L. STEELE.

ARCHITECTS SHOULD TRAVEL MORE

The young architect who would broaden his vision should travel more. The number of architects on the Pacific Coast who go abroad each year may be counted on one's fingers. The number that visit points the other side of the Rockies are limited almost entirely to those who go from time to time as delegates to the Institute conventions. We are sure it is not lack of finances which keeps so many members of the profession at home. More likely it is indifference or the lure of business or social ties.

Speaking on this subject before the Seattle Chapter of Architects recently, Dr. George H. Edgell, Dean of the Harvard Graduate School of Architecture, said:

One thing that our young architects need is travel. They go from high school to college, and afterwards are almost immediately employed as draftsmen. This gives them a tendency to know nothing but architecture, which may prevent them from ever climbing to the peak of success in their profession.

The architect should know all of the arts, constantly improving his opportunities for studying the fine arts. Architects should study the work abroad so that they may be able to understand the architecture of other countries and apply this to our own architectural problems. All this makes a tremendous demand on the time of the young man. There is, probably, no profession as exacting as architecture. Primarily the architect must have skill. To attain to the best in his profession he must be skillful. He must have taste and also energy. Architecture is a profession as well as an art. It requires business ability and forcefulness. The architect must cultivate urbanity, know how to meet people, as otherwise he cannot get his ability recognized by the public. Above all, the architect must have a real sense of service. He must think not only of himself, but of the community. It is also essential that he have integrity and design in an honest way.

An attitude of criticism is one of the happiest things in architecture and its results are beginning to be evident. The French system in the schools is a good one where the student is required to make preliminary sketches, as it is most helpful for the student to study his problem by himself. The impetus given to architecture in America today is largely due to the influence of our schools.

TOO MANY OFFICIALS

(Valve World)

ADDRESSING the Rotary Club of a Pacific Coast city a United States district attorney, speaking on the general topic of multiplying laws and increasing the number of public servants, said that at the present rate of increase there would be one public official for every three or four persons in the United States within twenty-five years. Twenty-five years ago there was one official to every three hundred of population. Today there is one official to every twenty persons.

Continual multiplying of laws and the incidental, and inevitable, increase of officials to administer and enforce them, is, perhaps, the largest item in our steadily increasing cost of government. The public trough, into which the taxpayers pour their money, is becoming so overcrowded that the tax-eaters step on one another while feeding. Every new law means additional officials, added cost, increased taxation. Yet, our state legislatures and Congress continue to grind out laws interminably, and the people dig deeper and deeper into their pockets to keep the trough full and to feed the always hungry tax-eaters.

It is not an encouraging situation, and the worst feature of it is that no effective immediate remedy presents itself.

COMPETITIONS

DESIGNS FOR A CIVIC CENTER

The General Purposes Committee of the corporation of the city of Birmingham, England, have invited town planning experts, architects, and surveyors of all countries to submit designs in competition for the planning of the new Civic Center which it is proposed to lay out.

A prize of $4,666.50 will be awarded to the design placed first, and a further sum not exceeding lb1,000 will be divided between the authors of other designs approved by the assessor.

Conditions of competition, instructions to competitors, and plan of site may be obtained on application to Herbert H. Humphries, M. Inst. C. E., the City Engineer and Surveyor, on payment of a deposit of $5.11, which will be returned after receipt of a design or the return of the documents supplied.

Designs, in sealed packages, endorsed "Design for Civic Center," must be delivered to Mr. Herbert H. Humphries, M. Inst. C. C., Council House, Birmingham, England, not later than June 30, 1927.

The City of Birmingham has a population of about 1,000,000 being the second city in size in England, and is regarded as the center of the West Midland region of England, comprising six counties, which has a total population of 3,000,000. The present civic buildings are not adequate to the demands of them, and it is desired to provide sites for additional ones so disposed as to enhance the dignity of this important city. The object of this competition is to secure a plan which will bring about an impressive grouping, amid pleasant surroundings, of the important public buildings which it is intended to erect.

It may be recalled at this time that an American won the prize offered for the plans submitted for the Capitol City of Australia, which is soon to be officially dedicated at Canberra, Australia.

Accompanying the Conditions of Competition and Notes for Guidance of Competitors will be found:

(a) A general plan of Birmingham, scale 3½ in. = 1 mile.

(b) A plan of the site to the scale of 1/1250.

(c) Aerial photograph of the site.

(d) Photographs of Municipal Buildings, Hall of Memory, etc.

(e) Declaration Form to be filled in by the competitor and envelope for same.

ALL-WOOD HOUSE

A prize of $2500 is offered by C. W. Stimson, Seattle lumberman, for an all wood home design which will best present the possibilities of woods native to the Pacific northwest. Mr. Stimson has offered this prize through the West Coast Lumber Trade Extension Bureau. It is to be awarded in a nation-wide contest open to all interested persons. The contest will close July 1, 1927.

The contest will be conducted under the competition code of the American Institute of Architects. The conditions will be as follows:

1. The prize is offered for the design of a dwelling of wood, with broad latitude in size and cost.

2. It must be based on the use of woods native to the Pacific northwest.

3. It must develop the unusual possibilities of Pacific northwest woods.

4. Conventional style will not be considered as important and the greatest leeway will be allowed in this respect.

Mr. Stimson is manager of the Stimson Timber Company which operates a lumber manufacturing plant on Lake Union in Seattle. For further information address: West Coast Lumber Bureau, 5562 Stuart building, Seattle, Wash.

MEMORIAL THEATRE

Competition for the design of the new Shakespeare Memorial theatre at Stratford-on-Avon, to replace the old structure destroyed by fire on March 6, 1926, has now been formally opened. A copy of the program may be secured from the Secretary, Shakespeare Memorial theatre, 150 Nassau street, New York, N. Y. The site which has been secured for the new theatre is an enlargement of the old one on the banks of the Avon. The destroyed theatre, of which only the ruined walls remain, stood between the Avon and the road leading to the Church where Shakespeare lies.

The selection of a design has been placed in the hands of the Royal Institute of British Architects. E. Guy Dawber, President of the Royal Institute of British Architects, Cass Gilbert, President of the National Academy of Design of the United States, and Robert Atkinson, F. R. I. B. A., Director of Education for the Architectural Association, will act as judges. Applications for the contest should be accompanied by a fee of $5.00, which will be refunded if the specifications are returned within one month. Photographs of the town and theatre site will be furnished on request.

Traveling Fellowship

A traveling fellowship in the United States for French architects has been established by the American Institute of Architects under the auspices of the French Ministry of Education. The annual value of the fellowship, the donor of which is Julian Clarence Levi of New York City, is $1,500.

"The Institute," the announcement says, "deems the establishment of this fellowship a valuable contribution to international architectural education and a graceful recognition of our educational debt to France."

The fellowship will continue for an experimental period of three years, and will be administered by a committee of the Institute consisting of Chester Holmes Aldrich, Harvey Wiley Corbett, Julian Clarence Levi, and Lawrence Grant White, all of New York.

The following jury, the Institute is advised, has been named to select the first fellow:

The president of the Society of Architects (holding French Government diploma), the president of the General Society of French Architects, Prof. Pontremoli of the Ecole des Beaux-Arts, Jacques Greber, architect; Jean Hebrard, architect and chief of the Bureau of Teaching at the Ministry of Fine Arts; Paul Leon, director of Fine Arts at the Ministry of Education and of Fine Arts in France.

M. Leon is president of the jury, and M. Hebrard is secretary. The fellow will spend part of his time in travel and part in employment in the offices of prominent American architects.

Women Receive Architectural Awards

Three women of the University of California at Los Angeles have received awards in the annual contest for the Alfred C. Bossom Co-operation-in-art prizes of $2000 for the best architectural designs based on primitive American models.

The winners are Miss Virginia Gigos, Miss Anabel Sears and Miss Eleanore Rook, all of Los Angeles. The contest was conducted by the International Art Center.

The design of Miss Gigos, winner of first honors, was for a bank building combining Aztec and Mayan styles. Miss Sears' plan also was for a bank in which she employed a pure Mayan motif. Miss Rook's design was based on an Aztec pattern.

We feel the emotional tone or character of a building. In a cathedral we feel a certain spiritual exaltation; in a factory, the inspiration of work and labor; in a bridge, the realization of power; so that each structure gives one a different emotional note. — Geo. Bain Cummings.

Architect Has Two Inventions

Readers of The Architect and Engineer are well acquainted with Mr. F. W. Fitzpatrick's writings, criticisms, advice, etc., in these pages, for he has been a contributor for nearly a quarter of a century. Many know of his achievements not only in design but as a pathfinder, a pioneer in architecture. He was one of the first, if not the very first, to dally with the then novelty of skyscraper construction in the early eighties; he is the father of fire prevention and the originator of the set-back building (that has now become standard construction in all tall buildings). He has written the building ordinance of scores of cities and contributed much that was original and many improvements in existing forms of construction, notably perhaps, hollow tile forms.

Just now he has given us two more novelties that are likely to make an impression.

Realizing that the architects of today, the up-and-doing ones, greatly like the rough wall effects of common brick, but don't use it, largely because of its color and because it is common brick, and further realizing that architects are beginning to love color but are restricted to a very small gamut of it in the face bricks and other material, save at increased cost, he has perfected a means of enameling common brick any color desired and at an almost negligible cost over the raw ordinary common brick. The enamel is such that it can be applied before firing and adds but a few dollars to the original cost of common brick. Mr. Fitzpatrick predicts that the time is not far distant when the brick manufacturers will have inaugurated an era of daintily colored polychrome architecture.

Coincidently Mr. Fitzpatrick has applied for patents here and abroad on a new form of wall construction, a vertical interlocking channel that serves as outer wall, partition, roof and floor construction; a very simple affair, as all worth while things are simple and obvious once they are invented.

This channel is structure, outer facing and plaster all in one; it offers the same advantages as studding in frame work, yet does away with outer covering, such as brick, stone, terra cotta, stucco, shingle or siding, and at the same time dispenses entirely with plastering, a really revolutionary wall, in pieces story-height and two feet wide or so, pre-cast and of concrete of low cost. A building so constructed can be speedily put together quicker than any known construction today and at less cost than the most ordinary of the wood frame type.

With the Architects

Building Reports and Personal Mention

Four-Story Oakland Building

Plans have been completed by Architect Clay N. Burrell of Oakland for a four-story Class C hotel to be erected at University avenue and Tenth street, Berkeley, at an approximate cost of $100,000. The building will contain six stores and seventy-eight rooms. The exterior will be of pressed brick and terra cotta. The same architect is preparing plans for a six-story steel frame and brick apartment house to be erected on Fourteenth street, near Lake Merritt, Oakland, at a cost of $150,000, including furnishings. There will be a total of one hundred and thirty rooms.

Girls' Home, Berkeley

Architect James W. Plachek of Berkeley has completed plans and bids have been taken for a three-story brick home for girls who are attending the University of California and are affiliated with the Epworth Methodist Episcopal Church, South. The building will occupy a desirable location at Channing Way east of Telegraph avenue, Berkeley, and the funds for its construction are to be provided by Mrs. L. H. Glide.

Seaside Hotel

Plans have been completed by Architect Joseph L. Stewart, Claus Spreckels building, San Francisco, for a hundred-room hotel to be built at Seacliff Park, between Watsonville and Santa Cruz, for the Seacliff Hotel Company. Mr. Stewart is one of the stockholders of the company which plans to spend a quarter of a million dollars on the enterprise.

Apartment House

Plans have been completed by Architect S. Heiman, 57 Post street, San Francisco, for a three-story frame and stucco apartment house to be built on Buchanan street, north of Jackson, San Francisco, for Roy A. Lee. Mr. Heiman has considerable other work on the boards, including a store building and a large alteration job.

Alameda Warehouse

The California Packing Corporation will build a large warehouse, 250x1000 feet, in Alameda from plans prepared by Engineer Phillip Bush.

Other industrial projects for San Francisco and the Bay section include a six-story reinforced concrete factory for the Pacific Coast Syrup Company, Dodge A. Reedy, architect, and a one-story steel and brick addition to the plant of the General Electric Company, on East 14th street, Oakland.

San Francisco Hospital

Plans have recently been completed in the office of Architect Leo J. Devlin, Pacific building, San Francisco, for a Class A hospital for St. Elizabeth Infant's Hospital Association and estimated to cost $175,000. The main building will be three stories and basement with steel frame and brick and terra cotta exterior. A separate building will be provided for servants' quarters. The structural engineers of this project are Messrs. Ellison and Russell and the mechanical engineers are Messrs. Atkins and Parker.

Automobile Office Building

The California State Automobile Association is having plans drawn by Architects Reed and Corlett of Oakland for an office building to take care of the Association's East Bay business. The structure will occupy a convenient corner at Grand and Staten avenues, Oakland. While only one story will be built this year, the design provides for two additional floors when needed. The building will cost $100,000.

Newspaper Building

Working drawings are being completed by Architects Binder and Curtis of San Jose for a four-story newspaper building for the San Jose Mercury-Herald. The structure will be built on the site of the Mercury's present publishing plant. The estimated cost is between $150,000 and $200,000.

Twelve-Story Apartment

A twelve-story Class A apartment house is planned for the north side of Vallejo street, near Laguna, San Francisco, to be built under the name of the 1940 Vallejo Street Corporation. There will be eleven apartments of eleven rooms to each apartment. Carl Werner is the architect.

Ten-Story Loft Building

Preliminary plans are being prepared by Architect Vincent Buckley, Underwood building, San Francisco, for a ten-story steel and concrete loft building at Howard and Second streets, San Francisco, for the Ideal Realty Company. The structural engineer is H. L. Nishkian.

Piedmont Residence

Architect Ray F. Keefer, Tribune Tower, Oakland, has completed plans for a two-story frame and stucco residence in Piedmont for D. S. Ayres, estimated to cost $11,000.

PERSONAL

Architect John E. Kunst has given up the practice of his profession in Los Angeles and has moved to a ranch near Perris, Calif. While he will devote his energies chiefly to improving the ranch he will undertake any architectural work which may come to him in that section. Mr. Kunst's address will be Route L, Box 2A-B, Perris, Calif.

Balch Bros., architectural designers, have moved their offices from 934½ S. Figueroa street to Atlantic avenue and Whittier boulevard, Los Angeles.

Architect F. X. Lourdou has moved from 967 S. Kenmore to 2504 Virginia Road, Los Angeles.

Architect Clarence L. Jay has moved his office from 845 E. Washington street, to 208 Oversen building, 871 E. Washington street, Pasadena.

Architect W. C. Pennell and W. E. Young have formed a partnership under the firm name of Pennell & Young and will practice as architect and engineer in designing and supervising the construction of buildings with office at 804 S. Vermont avenue, Los Angeles.

Architect for Tourist-Hotel

Architect Carleton M. Winslow, 921 Van Nuys building, has been appointed by the Douglas, Ariz., Chamber of Commerce, according to a resolution adopted by them, to prepare plans and specifications and personally supervise the construction of a tourist hotel of about forty rooms, as well as a spacious lobby and other accommodations, which is to be erected just outside the city limits. The first unit will cost approximately $125,000.

Honored By France

Frederic C. Hirons, New York architect, has been made a Chevalier of the French Legion of Honor in recognition of his services for architectural education. Mr. Hirons has been active in enabling American students to continue their education in Paris and has been instrumental in obtaining the services of French architects as teachers in American universities.

Santa Clara Theatre

Architect C. A. Meussdorffer, 785 Market street, San Francisco, has completed working drawings for a Class A moving picture theatre to be erected in Santa Clara at a cost of $90,000 for V. A. Scheller of San Jose.

Petaluma School

Plans have been completed by Architect Brainard Jones of Petaluma for a brick elementary school and a contract has been let to T. B. Goodwin to build the structure at a cost of $64,000.

Engineers May Decide

Employment of three disinterested engineers to name a location and prepare preliminary plans for a transbay bridge has been voted by the San Francisco Board of Supervisors. Ten members supported the plan and six voted against it. The Board of Public Works will invite the presidents or acting presidents of the University of California, Stanford University, University of Santa Clara and St. Mary's College to submit the names of three engineers best qualified to act on the bridge matter. When the board of Public Works has submitted the names to the Board of Supervisors it will then be necessary, according to an opinion given by City Attorney O'Toole, to pass an ordinance to provide for the pay and expenses of the engineering commission.

New Architectural Firm

Architect Raymond F. de Sanno, who has been associated for some time with Architect James T. Narbitt of Richmond, has opened an office in the Muller building, 271 Tenth street, Richmond, and with Lynn L. Bidwell will practice architecture and engineering. The new firm would like to have building catalogues and other trade literature.

Apartment House

Plans have been completed by Architect Albert H. Larsen, 447 Sutter street, San Francisco, for a three-story frame apartment house for Messrs. Rhine and Stoff. The building will be erected on the north side of Clay street west of Broderick, San Francisco, and will contain eight 4-room and eight 3-room apartments.

Bank and Office Building

Architects Dodd and Richards of Los Angeles have completed plans for a Class A bank and office building at the southwest corner of Broadway and Brand boulevard, Glendale, for the Pacific Southwest Realty Company. The structure will be six stories and will cost $400,000.

Christian Science Church

A contract has recently been let by Architect Henry H. Gutterson of San Francisco for the construction of a one-story rustic church for the Mountain View Christian Science church. Mr. Gutterson has also completed plans for Science churches in San Leandro and Berkeley.

Granted Certificates

The following were granted architects' certificates at the last meeting of the California State Board of Architecture, Southern District: John Byers, 246 26th street, Santa Monica, and Marcus P. Miller, 607 N. Serrano street, Los Angeles.

Passing of C. E. Musto

Clarence Enrico Musto, president of the Musto Sons-Keenan Company, died at his home, 2700 Vallejo street, San Francisco, Feb. 9, following an illness of two years. Mr. Musto was a member of the San Francisco lodge of Elks, Stanford Parlor of Native Sons of the Golden West and had been identified for years with important civic and social organizations of the city.

Besides his leadership of the Joseph Musto Sons-Keenan Company, he was a director in the Italian-American Bank of San Francisco.

Mr. Musto is survived by his widow, Maria A. Musto, and five children, Kathleen, Yvonne, Joseph, Adam and Clarence E. Musto Jr., a brother, Guido J. Musto, secretary-treasurer of the marble company, and three sisters.

Hennings Heads Roofing Firm

Harry Hennings, secretary-treasurer of the Master Roofers' Association of Alameda county, has taken over the business of Graff Winlund Graff, Inc., and will operate under the firm name of General Roofing Company, specializing in the larger projects for asbestos, slate, tile and composition roofing. As its name implies, the company will engage in a general roofing business and at the present time is operating at full capacity. Offices, estimating rooms and warehouse quarters are at Beach and Hallack streets, Oakland. San Francisco branch offices are at 486 California street. Mr. Hennings is well and favorably known to the architectural profession in the Bay territory.

"Gas" Refrigerator

The first "gas refrigerator" to be seen in San Francisco is on display at the offices of the Pacific Gas & Electric Company. It is a unique device. A gas flame heats ammonia and vaporizes it. The vaporized ammonia is then cooled by water coils and liberated in the refrigerating unit inside the box. The action causes a drop in temperature. The ammonia is then absorbed in cold water and the process repeated indefinitely.

Cement Companies Merge

Earnings of the Pacific Portland Cement Company, Consolidated, during 1926, were very satisfactory, everything considered, according to the report of President Robert B. Henderson, read to stockholders at their annual meeting January 28. It was reported at the meeting that the company had doubled the capacity of its Redwood City plant and that construction work is progressing. This company was recently merged with the old Mission Portland Cement Company.

Change in Ownership of Strable Hardwood Company

At a meeting of the Board of Directors of the Strable Hardwood Company, Oakland, on January 24, final arrangements were completed for its purchase by a company headed by J. O. Elmer. The new company will continue to operate under the name of the Strable Hardwood Company with Mr. Elmer as president and manager.

J. O. Elmer, the new president, was formerly secretary - manager of the Strable Hardwood Company, is well known to the hardwood trade of the state and has been active in the hardwood business in California for the past seven years.

His entry into the California market was as representative for several large eastern hardwood concerns, including the Carrier Lumber & Manufacturing Company, Sardis, Miss.; Pearl River Valley Lumber Company, Canton, Miss.; The Frank A. Conkling Company, Memphis, Tenn.; Lucas E. Moore Stave Company, New Orleans; Bayou Land & Lumber Company, Memphis, Tenn.; Moline Timber Company, Moline, Ark., and the International Mahogany Trading Company, New Orleans. He first made his headquarters at Los Angeles but later moved to San Francisco and his close association with the hardwood trade in the Bay District brought him in close contact with the Strable Hardwood Company, which finally led to his giving up his business and associating himself as a stockholder, director and secretary-manager of the Strable Company early in 1925.

The Strable Hardwood Company has operated in the East Bay District for twenty years, and under the leadership of George H. Brown, the retiring president, has made remarkable growth. On January 8, 1927, this company had been in its present location for nineteen years. The first year they were in business they were located at Alameda. In 1907, Mr. Brown, who had formerly been connected with the Strable Manufacturing Company at Saginaw, Michigan, organized the Brown-King Lumber Company. Later the company was taken over by Mr. Brown and operated under the name of the G. H. Brown Lumber Company, which finally became a branch of the Strable Manufacturing Company. In 1916, Mr. Brown took over the business, which was incorporated under its present name, and he continued as president until the recent change of ownership.

POSITION WANTED as draftsman in San Francisco architect's office or out of town. Experience, 7 years' office practice, including outdoor supervision of work. Preparation of working drawings, drafting and specifications. References by two leading firms.

Architects' Chapter, Society and Club Meetings

Northern California Chapter, A. I. A.

The last meeting of the Northern California Chapter of the American Institute of Architects was held on Tuesday, March 15, in the Mark Hopkins hotel. The members of the Society of Architects of Alameda county were the invited guests. The entertainment committee offered a special program of unusual interest.

The regular meeting of the Chapter was held on Tuesday, February 15, in the rooms of the San Francisco Architectural club, 523 Pine street. The meeting was called to order by President John Reid, Jr.

Mr. Holder, Mr. Hartly and Mr. McWilliams were present as guests.

The minutes of the previous meeting were accepted as published.

Mr. Allen, for the publicity committee, reported regarding publicity in the current issues of newspapers, etc. The committee reported against paid advertising by the Chapter.

The secretary read a communication from the San Francisco Garden Club, asking co-operation. The secretary was instructed to offer co-operation.

A communication was read regarding a competition for university buildings for the University of Western Australia. Those wishing particulars may obtain them from the secretary.

A request for endorsement of bills for the State Parks Commission was referred to the Building Laws and Legislation Committee, with power to act.

E. H. Hildebrand was appointed representative to the Central Council of the Builders Exchange, with Morris M. Bruce as alternate.

An invitation was read from the San Francisco branch of the League of American Pen Women to attend a book fair at the Mark Hopkins hotel, March 1 to 6, inclusive.

W. C. Hays presented a notice regarding a fine set of Paris prize drawings on exhibit in the Architectural building of the University of California.

Earle B. Bertz reported progress for the Exhibition Committee. The return from the preliminary letter is not satisfactory. The committee requests that all Chapter members reply immediately.

Mr. Mooser reported for the Committee on Building Laws and Legislation. This committee has been working with the State Bureau of Housing, and also on certain additions to the San Francisco building law.

Mr. Hartly of the California Electrical Bureau spoke on the Red Seal system for identification of electrical equipment.

Mr. Holder of the Paraffine Companies, Inc., spoke most interestingly regarding roofing problems.

The necessary legal steps for changing the name from San Francisco Chapter to Northern California Chapter have been taken, and from now on the new name will be used. The change of name will give a clearer idea of the geographical area which our Chapter represents, since it takes in all of Northern California and Nevada.

San Francisco Architectural Club

(Contributed)

The San Francisco Architectural Club has determined that 1927 shall be its most prosperous and successful year. High hope and confidence and great expectations are placed in the newly elected officers who are respectively:

H. Burnett, president; L. Keyser, vice-president; R. Coleman, secretary; J. Devitt, treasurer; A. Janssen, H. Langley and I. Springer, directors.

The February meeting was well attended and was made of special interest by an address by M. Vinson, an authority on architectural publications; a short talk by Ernest Born and a stunt staged by Don Works, Al Johnson and Clyde Trudell of the Atelier.

Ira Springer, the new Entertainment Committee chairman, announces a galaxy of social activities to take place during the year. He promises some novel form of entertainment at each meeting and get-togethers will be held between meetings in the form of picnics, theatre parties, etc.

The Atelier has lately been a scene of great activity. Problems are knocked out right and left, and most any night an energetic little group may be seen bent over the boards up on the second floor.

The boys miss Rene Travelletti and Hornce Driver who left last month for Chicago. The dapper Frenchman returned to the Armour Institute and the "bloody Australian" landed a job in "Chi."

A certain "homey" atmosphere prevails in the Atelier since the Born family, Ernie and Esther, have taken up their studies there. Ernie is taking the Le Brun Competition and Mrs. Born is "doing" the Emerson Prize.

The Club's weekly Thursday lunch will

be held at the Lick Grill for a while instead of at the club headquarters until our chef has served a short term for violating the pure food laws. Luncheon served from 12 noon to 1:30 p. m. All members and friends of the profession welcome.

The Sacramento police were again foiled when Fred Howelling appeared in the city. When not in hiding Fred pounds the boards for Al Larsen.

Voisson is back from Los Angeles. He says he feels as though resurrected from the dead.

The boys are giving Bill Freeman the glad-hand. Willie passed the board and got his ticket last month.

"Lorry" Keyser is also to be congratulated. "Lorry" holds down two real jobs now. First, he has become associated with F. H. Meyer and M. Jorgensen and second, he is our new vice-president. Lots of work ahead, old man.

The March meeting was featured by a mammoth initiation.

C. TRUDELL

Los Angeles Chapter of Engineers

Los Angeles Chapter, American Association of Engineers, held its first meeting of the year January 27th at the Artland Club in the Fine Arts building. About seventy members and guests, including the ladies, attended the meeting. During the dinner, music was furnished by an Hawaiian orchestra. The program of the evening consisted of two interesting talks on aviation, illustrated with motion pictures and aerial maps.

Major C. C. Moseley, President and General Manager of the Western Air Express, Inc., outlined the development of aeroplanes from the early machines of the Wright Brothers to the present highly efficient passenger planes.

Mr. L. T. Eliel gave an intensely interesting talk on the "Engineering Application of Aerial Mapping," describing the accurate surveying by aeroplane photography of large areas of territory otherwise almost inaccessible. Mr. Eliel illustrated his talk with a number of aerial maps, demonstrating their value in studies of city planning as well as in mapping large rough areas.

Moving picture reels showed early aeroplane flights and the recent bombing of warships by aeroplanes.

W. C. HOGOBOOM

Oregon Chapter Officers

At a recent meeting held in the offices of Architect A. E. Doyle, the Oregon Chapter, A. I. A., elected the following officers for the ensuing year: President, O. R. Bean; vice-president, W. R. B. Willcox; secretary, A. Glenn Stanton; treasurer, Fred Allyn.

Favor Civic Center

The Society of Engineers believing that the new $2,500,000 Federal office building to be erected in San Francisco as an addition to the Civic Center will materially extend this remarkable group of buildings and the site will be well chosen for its intended purposes, passed a resolution at its regular meeting February 8th, favoring this particular location and requesting the local representatives at Washington to use their influence to make its selection final.

Hotel Plans Completed

Architects Fabre and Hildebrand, 110 Sutter street, San Francisco, have completed plans for a ten-story reinforced concrete family hotel to be built on Geary street and 20th avenue, San Francisco, for D. Paganini at a cost of $200,000. The same firm has completed plans for a new hotel to replace the one recently destroyed by fire in Sausalito for the Alto Miro Hotel Company.

Pioneer Contractor Passes

Carl Leonhardt, 71, president of the Southwest Portland Cement Co., operating plants at Victorville, El Paso and Dayton, died at his home in Los Angeles, Feb. 14. Prior to entering the cement business, Mr. Leonhardt was a general contractor and constructed a number of the large business and public buildings in Los Angeles.

Clean-up at San Jose

San Jose city council has started a war on structures classified as unsightly and unsanitary which constitute serious fire menaces. Fourteen structures are listed and proceedings will be started at once to condemn the buildings.

Plumbing Firm Moves

The William F. Wilson Company, plumbers, located for many years in the King George hotel building on Mason street, San Francisco, have moved to an attractive two story shop, office and display building at 240-242 Fourth street, between Mission and Howard.

In New Quarters

Dudfield Lumber Company is occupying its new quarters at Channing avenue and High street, Palo Alto. The company recently completed a modern office building, estimating rooms, warehouse and yard quarters.

Associated Architects

In the design of the $700,000 San Diego Athletic Club building the following architects are associated: W. H. Wheeler, F. W. Stevenson and I. E. Loveless.

Field of the Contractor

California's First Electrically Welded Steel Frame

GOOD progress is being made by Villadsen Brothers, engineers and contractors, who are building an electrically welded steel frame garage for the Associated Oil Company in Emeryville, Alameda county—the first building to be erected by this method in California. Instead of riveting the steel, expert welders fuse the members of the trusses together with the electric arc and the result is a lighter, stronger building than the riveted one, it is stated. The necessity of drilling holes, bolting up, reaming and riveting is eliminated, therefore construction costs are materially reduced. An additional feature is the complete elimination of the usual noise of the pneumatic hammers which follows the riveted type. The roof is supported by 52 trusses of 60 foot span which are the longest yet constructed by this method, it is stated. The trusses were tested with a load of 33,561 pounds, which is greatly in excess of the weight they were designed to carry.

The following interesting article on the subject of electric steel welding appeared in the New York Times of January 26, 1927:

"The steel frame of a five story factory has just been completed at Sharon, Pa., without arousing the entire town from its morning slumber or testing its nerves.

"There were no maddening blows of pneumatic hammers delivered with the noise and rapidity of a machine gun in action, and no picturesque, dangerous tossing of red hot rivets into a skilfully manipulated barrel 100 feet away.

"Sixteen experts wearing goggles noiselessly fused beams and girders together with intense heat and dazzling electric arcs.

"It will be recalled that the arc welder was first applied with brilliant success by American engineers in repairing the disabled machinery of interned German ships during the war.

"At Sharon the same apparatus is used for the first time in erecting the frame of a large building.

"The Sharon structure must be tested for strength and the comparative cost of making and welding must be established before we may herald the day when skyscrapers will be silently erected with electric heat. But it augurs well for the noiseless future that 100 tons of steel (one eighth the amount that would ordinarily have been required) were saved by arc welding and that Sharon's historic five story factory was a steel frame of unprecedented lightness and stiffness for its size."

Plastik Watertite Contains Celite

An interesting announcement comes from the Old Mission Portland Cement Company with offices in the Standard Oil building, San Francisco, to the effect that their Old Mission Plastik Watertite Portland cement now contains celite, in the proportion of 2½ lbs. to every 94 lbs. of cement.

While the reputation the Old Mission Portland Cement Company has built up is ample guarantee for the quality of any product it sponsors, the inclusion of diatomaceous earth marketed under the trade name of "Celite," is additional evidence that the company takes every precaution to maintain its high standards.

Celite is incorporated in Old Mission Plastik Watertite Portland cement at their plant under strict laboratory control, such as would be impossible with a field admixture. "This is but another way of saying that all the advantages of diatomaceous earth admixtures are brought out to the fullest degree," said a representative of the company. "As a result, Old Mission Plastik Watertite Portland cement eliminates the need of patchwork. Concrete made with it is free from honeycombs, workable to a degree heretofore thought impossible. It maintains its original homogeny right down to the final stage of placing, even in intricate reinforced forms.

"In addition, the bulking effect of Old Mission Plastik Watertite permits considerable economy of material without stinting the richness of the mix."

Recent Westinghouse Publications

The following are some of the more recent catalogs and brochures published by the Westinghouse Electric & Manufacturing Company:

Modern Electrical Equipment for Buildings.
Electric Power for Buildings.
Variable-Voltage Control Systems as Applied to Electric Elevators.
The Arc Welding of Structural Steel.
Electrical Equipment for Heating and Ventilating Systems.

Any or all of these books may be had by addressing the company's publicity department, East Pittsburg, Pa.

Modern Schoolhouse Heating and Ventilation

IN A PAPER on "Modern Schoolhouse Heating and Ventilation," read before the American Society of Heating and Ventilating Engineers, William B. Ittner, architect for the St. Louis schools, presented a masterly portrayal of the factors involved in modern ventilation. Mr. Ittner is known as one of the foremost school architects in the United States, having designed notable schools in many states. In addition to being a past executive of the American Institute of Architects, Mr. Ittner was honored by being elected a Fellow of the Institute.

After briefly reviewing the history of ventilation as applied to schools, Mr. Ittner said: "Engineering and not medical science, then, is to be credited with the discovery and modifications of discrepancies in early types of mechanical ventilating systems. The modifications, it will be noted, have been chiefly in the direction of regulation downward of excessive temperatures and in the direction of precise control. Air-conditioning was a development incidental to local demands because of odors, dust, aridity, or other objectionable features.

"The fundamental engineering problem has been to secure suitable temperatures independent of prevailing outdoor conditions, and air movement without draft. Controlled methods have everywhere superseded haphazard experiment. Whatever the agreed optimum for health, the architect and engineer can supply it. Any air velocity; any temperature range; constancy or variability in heat, humidity, or other conditions; aggregate or unit control; whatever the health specifications, good design plus intelligent operation of mechanical systems can achieve it."

Mr. Ittner's attitude toward the open window controversy is best expressed in the following pithy observation:

"Mechanical ventilation is controlled ventilation. Window ventilation is uncontrolled ventilation. Every installation is a new problem for engineering skill. Any formula is a fallacy. The open window formula was tried and found wanting years ago and, contrary to its popular propaganda, the complexities and costs of its apparatus and management are far in excess of those of the mechanical systems it seeks to supersede."

And again:

"Architects offer no formulae for school ventilation. They are open-minded enough on the one hand to dispense with mechanical ventilation in isolated situations and exceptional instances where the air is pure and noise or odors offer no problem, and on the other to provide the utmost limit of air treatment and transport where crowded cities, manufacturing process, or physiological requirement call for it. The general trend favors year-round air conditioning with cooling in summer and heating in winter rather than return to earlier, uncontrolled methods."

Probably the most interesting part of Mr. Ittner's paper was his presentation of actual facts and figures giving comparative costs of a typical school building equipped for window ventilation and again for one with complete control of mechanical air-conditioning. In leading up to the presentation of these figures, Mr. Ittner said:

"Costs of ventilation equipment are important considerations, but costs are relative. If cost is commensurate with service, or if the child's health is in the balance, we can only require that the outlay be consistent. Engineering standards make no virtue of the mere fact of low expenditure. It is economy plus efficiency which counts. It is somewhat beside the mark to compare costs between an efficient mechanical system with fixed load, capable of precise, central, automatic control, independent of outside climatic conditions, with window gravity ventilation, never measurable, never predictable, and never centrally operated.

"This is especially true when the provision of open windows and gravity exhaust for class-rooms does not obviate the necessity of independent mechanical systems for air-removal and air-renewal in toilets, lavatories, kitchens, and cafeterias. If air filters are utilized in connection with open windows, comparisons would be still more misleading.

"A specific cost comparison between mechanical and window ventilation systems as applicable to a modern elementary school plant at Greenfield, Ohio, is set forth in Table 1. On February 20, 1925, an eight hour test of the heating and ventilating system in this building was carried on from 8 o'clock in the morning till 4 o'clock in the afternoon. The building has a capacity of 1,250 pupils and is organized on the platoon plan.

"The average outside temperature was 22°F. Room temperatures were maintained in all the rooms throughout the test, ranging from 68° to 70°F., making an average of 69°. The outside relative humidity was 31. The relative humidity in the class rooms was 40 to 43, an average of 41.5. The average velocity of the air entering the rooms through the diffusers was 269 ft. per minute and the class room air chambers were 8.25

per hour. This represents about a 100 per cent performance.

"A typical class room accommodating 40 pupils under window ventilation would require 12,480 cu. ft., which represents an excess of 36.2 per cent over the 9,152 cu. ft. content, which is ample under mechanical ventilation. The window area required is 192 sq. ft. under window ventilation, or 36.2 per cent more than the 141 sq. ft. found requisite under the mechanical system. The air supply under window ventilation shows the ration of 800: 1,200, or one-third less than the mechanical load.

"Roughly, then, the expenditures under the self-styled 'natural' system of ventilation is one-third more and the air supply one-third less than that assured under a controlled system. This takes no account of the absolute failure of open windows as ventilators if climatic conditions or location are not favorable and the fact that radiation under the window gravity plan will average 426 1/3 sq. ft. on the three floors of the Greenfield Elementary School as against 123 1/3 sq. ft. under the mechanical plan. This represents an excess of about 240 per cent in radiation.

"The dollars and cents costs of excess fuel for maintenance would depend of course upon seasonal requirement and the efficiency of the maintenance engineer. It would run into a large sum annually. The total building results under window ventilation show an excess in cubic contents of 122,250 cu. ft., or practically 10%. The cost per pupil would be $22.65 in excess of the mechanical installation, or 9.25%, and the total additional cost of building involved in the problematical window arrangement would be $28,316.98, or about 10%. Apparently much proof needs to be forthcoming to substantiate the statements of window-gravity ventilation propagandists that the State of New York is wasting millions every year on mechanical ventilation.

"Central control of ventilation is essential for school efficiency. Hygienic standards now prevail instead of individual notions. Those standards are not static. They are open to revision. School ventilation requirements represent no extremes of air-conditioning that are at all formidable to architect or engineer. Efficiency within the full range of limits of operation are achieved in all climates and at a minimum cost for the conditions submitted, and performance tests prove the reliability of the ventilation system under competent management. These matters and not controversies pertaining to standardization are the function of the school architect."

48-Page Handbook

The General Fireproofing Building Products, Youngstown, Ohio, has issued a 48-page handbook containing architectural details of the company's "Self-Sentering" and "Trussit." The handbook gives valuable information as to the methods of handling and installing this material. The wide adaptability of "Self-Sentering" as a metal lath and concrete reinforcing is shown in a large number of illustrations where the product is used on roofs, partitions, floors and curtain walls. Its range of utility runs from small frame residences to the heavy baffle walls of a sewage disposal plant. The book also contains tables of weights and live loads for both products.

S. C. Chapter Meeting

At the regular monthly meeting of the Southern California Chapter, A. I. A., held in Los Angeles March 8, Stiles O. Clements acted as host.

After the introduction of Peter Brust, F. A. I. A. of Wisconsin, who made a short talk on his impressions of Southern California, President David J. Witmer turned the meeting over to Mr. Clements.

Carl Bush, secretary of the Hollywood Chamber of Commerce, gave a talk on the methods of financing used by that organization in the financing of their building.

Joseph R. Wilzcek of the Meyer de Segni Gallery, described some of the interesting customs and sights to be seen in Constantinople and Egypt.

TABLE I—Comparing cost relationships between mechanical and window ventilation in typical class room unit of forty pupils.

Class Room Unit	Mechanical Ventilation	Window Ventilation	Percentage Gain or Loss
Cubic Content	22x32x13=9,152′	24x40x13=12,480′	+36.2%
Air Supplied C. F.	1,200	800	—33.3%
Window Area-Glass	141 sq.ft.	192 sq. ft.	+36.2%
Amt. of Radiation (Average 3 Floors)	123.33 sq. ft.	426.33 sq. ft.	+240.%
Total Bldg. Results:			
Cubic Content	1,019,843	1,127,253	+122,250 cu. ft. or 9.85%
Cost per Pupil	$244.76	$267.41	+$22.65, 9.25%
Total Bldg. Cost	$305,952.90	$334,269.88	+$28,316.98 or 9.25%

BOOK REVIEWS

Edited by
CHARLES PETER WEEKS

The Church School Building, prepared by the Bureau of Architecture of the Methodist Episcopal Church. Price 50 cents.

This is a 32-page monograph published by the Bureau of Architecture of the Methodist Episcopal Church with offices at 1701 Arch street, Philadelphia, Pa., and 740 Rush street, Chicago, Ill. The booklet describes the departmentalization plan now considered so essential to any successful program of Religious Education. There are 29 plates illustrating department and class rooms and floor plans, although illustrations of rooms are featured rather than plans.

The Smaller Houses and Gardens of Versailles, 1680-1815, by Leigh H. French, Jr., and Harold D. Eberlein; 200 pages, size 9x12 inches, illustrated. Price $6.00 postpaid. Published by Pencil Points Press, Inc., 419 Fourth Avenue, New York, N. Y.

This is another addition to Pencil Points, already splendid architectural library. The book covers a little known but charming phase of French Domestic Architecture in an admirably adequate manner. Many details and arrangements for both exteriors and interiors of American residences will be suggested to the designer who studies its pages. There are more than 250 photographs, plans and measured details.

The following is taken from the author's foreword:

This volume sets forth an aspect of French domestic architecture, in the seventeenth and eighteenth centuries, from which we of today may draw a very direct and useful lesson. It is an aspect hitherto unexploited. Indeed, its existence has been hardly dreamed of save by a limited few. It is an aspect incident to and occasioned by, but not of, the life of the Palace at Versailles. It has especially to do with the private dwellings of the courtiers in residence at Versailles during the reigns of Louis XIV., Louis XV., and Louis XVI. From a study of the houses herein considered we may gain many a hint of substantial value for modern architectural purposes.

As commonly conceived, Versailles is the Palace and the Palace is Versailles. In a measure this is true. But it is not wholly true. The royal residence, to be sure, has always been of such dominating importance that it has overshadowed all else in the vicinity. The Palace and its immediate dependencies, however, have not occupied the whole of the stage. What many people forget is that there is also a City of Versailles. And the City of Versailles is partly made up of the dwellings of personages who were attached to the French Court. However jealously these courtiers retained their rights to the lodgings assigned them under the royal roof, they nevertheless sought relief from the oppressive pomps and circumstance of Palace life in dwellings of their own where they might be absolute masters and mistresses of their domestic affairs.

The type of house developed in response to this demand on the part of the seventeenth and eighteenth century court circle is virtually unique and has no exact parallel elsewhere in France.

Handbook on Galvanized Iron Roofing

American Rolling Mill Company, Middletown, Ohio, which always does things well and which has a nation-wide reputation as the manufacturers of "Armco" iron, has recently published a comprehensive work called "Galvanized Iron for Roofs and Roof Drainage." The book speaks for itself. It has an undeniable appeal which must make it a valuable addition to an architect's building material files. There are some sixty pages of information, prepared, so the author states, in collaboration with recognized, competent architects. Some idea of the contents of the book may be had by quoting a few of the sub-titles: "Important Facts About Galvanized Iron for Roofing," "Style Roof to Specify," "Standard Practice in Laying Metal Roofing," "Gutters, Downspouts, Elbows and Shoes," "Suggestions for Sheet Metal Specifications," "Working and Reference Data," "Safe Loads for Rectangular Wooden Beams," and "Combined Dead and Live Loads for Various Types of Roofs."

New Publications

Westinghouse Electric & Manufacturing Company has issued two publications of interest to architects and builders. One is entitled "Theater Switchboards" and has been filed with the American Institute of Architects, file number 31C2. The second one, folder 4737, gives various statistical information on the ratings and capacities of safety type panelboards. All the experience gained from years of work in designing electrical apparatus has been used to the fullest in the preparation of Westinghouse Theater Switchboards. The same electrical and mechanical strength so essential in power switching equipment has been incorporated in the various makes of these boards for theatrical use.

NEW HOME OF GLOBE ELECTRIC WORKS, SAN FRANCISCO
Mark T. Jorgensen, Architect

$30,000,000 Merger of Cement Mills

THE recent consolidation of the Pacific Portland Cement Company and the Old Mission Portland Cement Company, with headquarters in San Francisco, has caused considerable stir in financial, industrial and construction circles. It gives the Pacific Coast one of the largest companies in the cement industry. The merger is in line with the modern industrial tendency for greater efficiency of operation and service through consolidated resources and facilities.

The new company will have three cement plants with a daily capacity of about 15,000 barrels of cement, with vast holdings of cement land throughout the state (totaling about 50,000 acres) in fee and mineral rights and, in addition, two plaster plants strategically located for supplying the entire Pacific Coast, and provided with ample gypsum deposits for many generations to come.

The active direction of the new company remains in the hands of the same management that has piloted the constituent companies to such conspicuous success, viz: Mr. Robert B. Henderson, president of the Pacific Portland Cement Company; Mr. William F. Humphrey, president and Mr. J. A. McCarthy, vice-president and general manager of the Old Mission Portland Cement Company. The nnme of the new firm will be Pacific Portland Cement Company, Consolidated.

Essays on Architecture

For the best 500 to 1000 word essay submitted on "Whnt is the Value of Architecture in a Modern Community" by junior or senior students of a Santa Barbara county high school, the Associated Architects of Santa Barbara will pay $25. For the next four essays in order of merit the prizes will be $10, $5, $5 and $5.

Printed pamphlets setting forth the object, rules and conditions of the contest have been distributed in the high schools of the county by the Associated Architects.

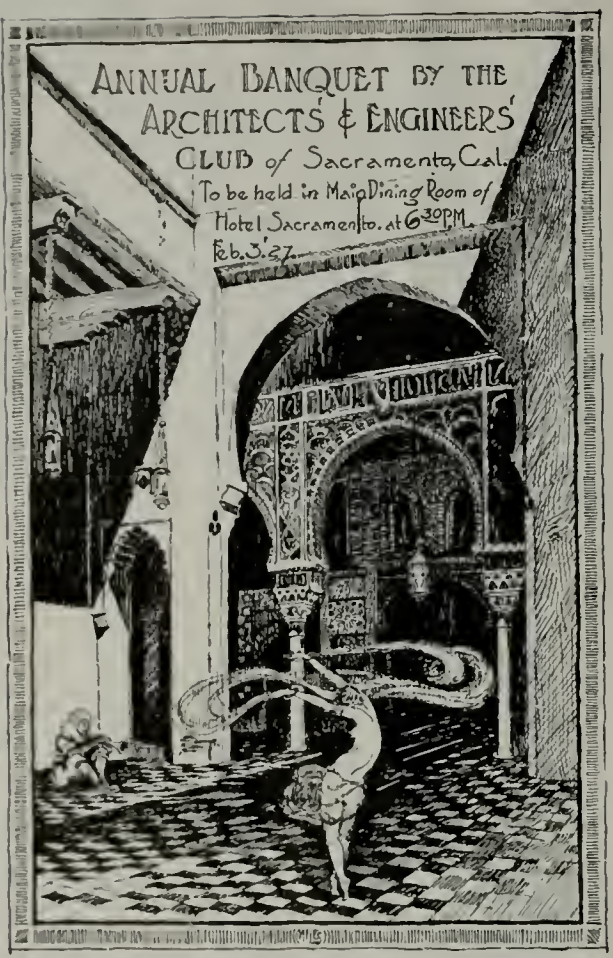
The aim of the Associated Architects in conducting the contest is set forth as follows in the foreword of the pamphlet:

"Believing in the value of architecture in community life and the worthiness of this ancient profession and being desirous of obtaining a better understanding on the part of the public as to the importance and scope of the work of the profession, the Associated Architects propose this competition.

"In presenting the topic to the competitors two fundamentals are set forth:

"First: That the subject encompasses the aesthetic and cultural value, the investment value and the civic value of architecture.

"Second: That the term 'Architecture' covers not only the beautiful design of buildings, but, also, their proper plan arrangements, location on the site and in the community, and their correct structural, mechanical and sanitary developments."


ANNUAL BANQUET BY THE
ARCHITECTS & ENGINEERS'
CLUB of Sacramento, Cal.
To be held in Main Dining Room of
Hotel Sacramento. at 6:30 P.M.
Feb. 3. '27.

CLEVER MENU COVER DESIGN FOR SACRAMENTO ARCHITECTS' AND ENGINEERS' CLUB BANQUET BY RODERICK MILES

Theatre and Office Building

Plans have been completed by Architects Walker and Eisen of Los Angeles for a twelve-story Class C theatre and office building to be erected on the west side of Broadway, between Ninth and Tenth streets, Los Angeles, for the United Artists Theatres Corporation. The total cost of building and equipment is estimated at $1,400,000.

Club and Hotel Building

Working drawings are being prepared by Architects Miller & Pflueger, San Francisco, for the proposed $1,000,000 club building and hotel for the Pacific Edgewater Beach Club.

Painting Contracts

D. Zelinsky & Sons, Inc., San Francisco and Los Angeles, have been awarded the contract for the painting and decorating of the Womens' Club building, Mason and Sutter streets, San Francisco. R. McLeran & Company is the general contractor and Bliss & Fairweather the architects.

Zelinsky & Sons also have been awarded the contract for the painting and interior decorating of the Shaw hotel, corner of Market and McAllister streets. K. E. Parker is general contractor and H. A. Minton architect.

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Electric Steam Heat

The advent of electric steam heat is welcomed by architects, some of whom have had disastrous experience with gas heating apparatus of the cheaper grades.

The Electric Steam Radiator Corporation has established offices and show rooms at 744 Harrison street, San Francisco, and reports that in two weeks' time orders were received for enough radiators to keep the factory busy day and night for 60 days. Orders have been coming in from all sections of the United States—and even Japan. It is a recognized fact that steam heat provides an even temperature with no hot spots or cold spots to interfere with comfort. Steam heat also provides healthful heat because it does not take moisture or oxygen out of the air, or discharge harmful fumes.

Some of the salient points of "Tesra" steam heat are given in the company's printed literature as follows:

"Tesra consists of a steam radiator of the newest, most attractive and most efficient design.

"Instead of being connected by steam pipes with a boiler or furnace, steam is generated in Tesra itself by an electric steam-generating element within the radiator.

"Thus every Tesra unit is independent, and the electrical energy is transformed to room heat without loss."

L. & S. Portland Cement Paint

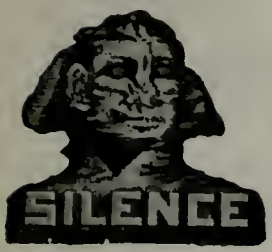
Hill, Hubbell & Company announce that A. P. Sinclair, lately connected with the Missouri Paint & Varnish Co., is now associated with the San Francisco factory of Hill, Hubbell & Co. They have obtained from him the right to manufacture and sell the original L & S Portland cement paint, which has more recently been manufactured under other trade names.

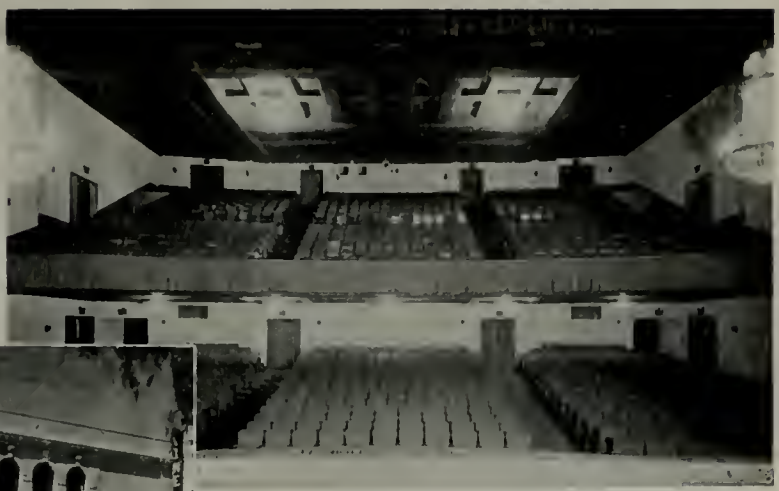
Mr. Sinclair will devote his time and energy to the distribution of this paint, to which has been given the registered trade name "L & S Portland Cement Paint."

Stocks of "L & S Portland Cement Paint" are available at Hill, Hubbell offices located at San Francisco, Oakland, Los Angeles, Portland, Seattle, Tulsa, New York, Baltimore, and Philadelphia; also the Galigher Company, Salt Lake City and the Lynch Company, Honolulu, T. H.

Granted Certificates

At the meeting of the State Board of Architecture, Northern Division, held February 24, the following were granted certificates to practice architecture in California: Mervyn Gunzendorfer, 3367 Washington street, San Francisco; Howard S. Hazen, 1515 Tenth street, Sacramento; Albert H. Winter, 1353 Vancouver avenue; Burlingame.





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"The good acoustic properties in this theatre are the result of careful planning in advance of construction.

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"Even the ticking of an alarm clock on the stage is plainly audible in all parts of the theatre.

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Philadelphia
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Philadelphia, November 20, 1926

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Gentlemen:

This is to notify you that the International Jury of Awards of the Sesquicentennial International Exposition has awarded you a Gold Medal for your excellence of workmanship and completeness of design.

The Diplomas of Award are being prepared and it is hoped to have them ready for distribution during the early part of the coming year.

Yours very truly,

S. C. Simms, Secretary
EXECUTIVE JURY OF AWARDS

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Gold Medal for Oil Burning Equipment

The Sesquicentennial Exposition, Philadelphia, has awarded a gold medal to the S. T. Johnson Co., manufacturers of the Johnson oil burner, for "excellence of workmanship and completeness of design."

This information was recently received by J. C. Johnson, president of the California company, in a letter from S. C. Simms, secretary of the International Jury of Awards.

The S. T. Johnson Co. is one of the pioneers in oil burner manufacturing, having been engaged continuously and exclusively in this business for 22 years. Branches and distributors are maintained throughout the United States and in foreign countries.

The letter from the Exposition appears above.

To Check Termites

Editor The Architect and Engineer:
Dear Sir:

Referring to the interesting article in the December issue of The Architect and Engineer on White Ants.

While on a trip to Los Angeles recently I found that the city of Los Angeles, and other places in the South, which were troubled with the termite (white ant), were successfully using a product made at Van Nuys to treat timbers in buildings and poles and posts. Those using the product claim the ants will not attack any wood so treated.

The product is made from Lake Trinidad asphalt, and may offer a suggestion for those who are troubled with the insects.

Yours truly,
O. G. HOPKINS.

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Says Oakland Is Backward

Eighty per cent of the buildings in Oakland and the East Bay District will be gone 50 years from today, according to Charles H. Cheney, landscape architect and city planning engineer, who was the guest of honor and speaker at a special meeting of the Society of Architects of Alameda county.

"This fact means opportunity," Mr. Cheney continued. "Today the East Bay is only ten per cent a city. The great majority of her buildings are not worthy of her or any modern city. The American public is awakening to the fact that it has not only been satisfied with less than the best but satisfied with what at times is the worst.

"The backward characteristics of some of the older countries, even the most progressive in Europe, is commented upon. But it is being borne in mind by Americans today that perhaps we are backward in some things. That is why we are having this great city plan meet in Oakland now."

Mr. Cheney spoke at some length on the legal aspects of boards of architectural and city planning control on which he is considered among architects, an authority. He declared that the attitude of both courts and public is changing from suspicion and hostility toward supervision and restriction in civic building to support and approval due to the results obtained by co-operation with such boards. Berkeley was the pioneer in making single family district restrictions in 1916, he stated, and her example is now followed all over the country.

Aluminum Paint

A handbook on the physical properties of aluminum paint and its uses in modern industry. Prepared by Junius D. Edwards and Robert Wray. Published by the Aluminum Company of America, Pittsburgh, Pa. The new pamphlet combines the material formerly shown in the Aluminum Paint Book and Aluminum Paint Manual.

Architect Broadens Scope

Architect Norman F. Marsh of Los Angeles announces the expansion of his office organization which will be conducted under the name of Norman F. Marsh & Co., architects and engineers. The new members of the firm are D. D. Smith, architect and engineer, of Venice, and Herbert J. Powell. Mr. Marsh, who will be the administrative executive of the firm, has practiced architecture in Los Angeles for the past twenty-seven years and has specialized in schools, churches and public buildings.

Gladding, McBean Expand

Purchase of Denny Renton Clay & Coal Company plants in Washington and other Northwestern States by Gladding, McBean & Co., was recently announced by Atholl McBean, president of the latter organization.

The consideration was not made public, but it is understood to run into large figures because of the extensive business holdings of the Denny Company. The purchasing company is a $10,000,000 organization.

Organized under the laws of California in 1875, the Gladding, McBean organization has six plants in California and six branch offices on the Pacific Coast. As the result of the consolidation, the company now has 200 kilns and employs 2000 workers.

Raymond R. Smith, manager of the company's brick and tile department here for the last two years, will be transferred to Auburn, Wash., to superintend the Denny plant there. He was associated with the Denny corporation from 1909 to 1925.

Civil Service Draftsmen

The California State Department of Civil Service announces examinations to be held in San Francisco, Los Angeles and Sacramento for architectural and structural drafting, designing and engineering positions. March 31st is the last day for filing applications with the Department in Sacramento.

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